University of Montana

ScholarWorks at University of Montana

Graduate Student Theses, Dissertations, & Professional Papers

Graduate School

2004

Contemporary philosophical naturalism: In concept and critique

James Carlin Watson The University of Montana

Follow this and additional works at: https://scholarworks.umt.edu/etd Let us know how access to this document benefits you.

Recommended Citation

Watson, James Carlin, "Contemporary philosophical naturalism: In concept and critique" (2004). *Graduate Student Theses, Dissertations, & Professional Papers*. 5022. https://scholarworks.umt.edu/etd/5022

This Thesis is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.



Maureen and Mike MANSFIELD LIBRARY

The University of

Montana

Permission is granted by the author to reproduce this material in its entirety, provided that this material is used for scholarly purposes and is properly cited in published works and reports.

Please check "Yes" or "No" and provide signature

Yes, I grant permission	
No, I do not grant permissic	on
Author's Signature:	4
Date: // 21/04	0

Any copying for commercial purposes or financial gain may be undertaken only with the author's explicit consent. Contemporary Philosophical Naturalism: In Concept and Critique

by

James Carlin Watson

B. S. Lee University, Cleveland, TN, 2000

presented in partial fulfillment of the requirements

for the degree of

Master of Arts'

The University of Montana

December 2004

Approved by:

Joursea

Chairperson

Dean, Graduate School

1-3-05

Date

UMI Number: EP40486

All rights reserved

INFORMATION TO ALL USERS The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI EP40486

Published by ProQuest LLC (2014). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC. All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC. 789 East Eisenhower Parkway P.O. Box 1346 Ann Arbor, MI 48106 - 1346 Watson, James Carlin, M.A., December 2004 /

Philosophy

Contemporary Philosophical Naturalism, In Concept and Critique

Chairperson: Burke Townsend

The task of this thesis is to identify the central ideas associated with naturalism as it is employed in the contemporary philosophical context for the purposes of providing a clear, identifiable, realistic, and plausible formulation in order to enrich current understanding of its role in contemporary philosophy and to subject it to a relevant critique. It is my contention that naturalism cannot be held consistently as an analytic philosophical position. Attempts to formulate naturalism in this way result in positions that are either unwarranted or not identifiably naturalistic, that is, they are compatible with anti-naturalistic positions. However, it is easy to understand how a philosopher could be warranted, in a broad inductive sense, in personally holding naturalism. I will use the term "worldview" to denote this type of broad inductive position. I will argue that the naturalistic worldview is best characterized as the beliefs that the natural sciences are the sole authority for producing knowledge of any kind and that science possesses autonomy from any philosophical argument. I will show that, though the naturalist is unable to show a connection between naturalism and a contemporary conception of science, she remains rational in believing naturalism at the personal level. However, this belief is subject, as all worldviews, to questions of consistency and completeness. I will argue that naturalism as a worldview faces four possible defeaters, one undercutting and three rebutting, that are cause for concern if the naturalist cannot adequately surmount them.

Table of Contents

PART I: IDENTIFYING CONTEMPORARY PHILOSOPHICAL NATURALISM

Chapter 1: Introduction	1
1.1: Preliminaries	
1.2: Clarification and Pitfalls to Avoid	
1.3: Defining Ineffable Science	
1.4: Defining Justification and Knowledge	
1.5: Before Defining Naturalism—various uses, various fields.	
Chapter 2: Respect and Care: A Definition of Contemporary Naturalism	29
2.1: Respect and Care for Conceptual Terms: A Definition	
2.2: Then what's anti-naturalism?	
2.3: Implications of naturalism	
2.4: Empiricism	
2.4.1: Introduction to Empiricism	
2.4.2: Naturalism's Irreducibility to Empiricism	
2.4.3: Problems With empiricism	
2.5: Pragmatism	
2.5.1: Introduction to Pragmatism	
2.5.2: Naturalism's Irreducibility to Pragmatism	
2.5.3: Problems With Pragmatism	
2.6: Physicalism	
2.6.1: Introduction to Physicalism	
2.6.2: Naturalism's Relationship to Physicalism	
2.6.3: Four Propositions in the Causal Argument for Physicalism	
2.7: Scientific Realism	
2.7.1: Introduction to Scientific Realism	
2.7.2: Justifying Realism	
2.7.3: Problems With Realism	
2.8: Naturalism and Theism	
2.8.1:	
2.8.2:	
2.8.3: Conclusion to Chapter 2	
PART II: CONCEPTIONS OF NATURALISM	
Chapter 3: Naturalism as a Strict Philosophical Thesis	116
3.1: Varieties of Naturalism	
3.2: Evolutionary Naturalism	
3.3: Religious Naturalism	
3.4: Ethical Naturalism	
3.5: Ontological Naturalism	
3.6: Epistemological Naturalism	
3.7: Methodological Naturalism	
Chapter 4: A Critique of Naturalism	177
4.1: Critique of Naturalism as an Analytic Thesis	
4.2: An Exposition of Naturalism as a Worldview	
4.3: Defeaters for Naturalism as a Worldview	
4.3.1: An Undercutting Defeater for Naturalism as a Worldview	
4.3.2: Three Rebutting Defeaters for Naturalism as a Worldview	
4.4: Conclusion	
Pibliography	130
Divinglapuy	- 230

...[W]e find many philosophers engaged in such projects as naturalizing epistemology, naturalizing rationality, naturalizing jurisprudence, naturalizing the mind, naturalizing the a priori, naturalizing morality, and so on.

But what is naturalism?

(Michael Rea, World Without Design, 2002)

Chapter 1: Introduction

1.1: Preliminaries

What do philosophers mean by the term 'naturalism'? The concept enjoys what Michael Rea calls, "the lofty status of academic orthodoxy," yet when someone labels their position 'naturalistic,' we tend to have only a vague idea of what they are trying to communicate. We might think something along the lines of empiricism, materialism, or scientism, even pragmatism. Depending upon the philosophical area in which it is employed, naturalism may seem to imply other qualifiers, such as nominalism,¹ atheism,² or scientific realism.³ But these complex 'ism's accept a multiplicity of uses and incite various controversies in the current literature. Most versions of naturalism actually resist reduction to any of the aforementioned terms. On close inspection, naturalism has an identity of its own, independent of other philosophical theses. Making 'naturalism' precise will involve a meticulous analysis of contemporary philosophical tendencies in general, specifically the contemporary posture toward science, and an analysis of how naturalism is used in the contemporary literature. The ubiquity of the term makes an understanding of this philosophical position requisite for understanding much of

¹ Wilfrid Sellars writes that, "A naturalist ontology is necessarily a nominalist ontology," *Naturalism and Ontology* (Atascadero, CA: Ridgeview Publishing Co., 1979) p. 109, cited in J. P. Moreland, "Naturalism and the Ontological Status of Properties, *Naturalism: A Critical Analysis*, ed. by Moreland and Craig (London: Routledge, 2000), p. 68.

² Alvin Plantinga, Warrant and Proper Function (Oxford: Oxford University Press, 1993).

³ Philip Kitcher, Advancement of Science (Oxford: Oxford University Press, 1995) and Larry Laudan, Science and Rlativism: Some Key Controversies in the Philosophy of Science (Chicago: University of Chicago Press, 1990).

contemporary philosophy, whether or not the philosophers who label their positions naturalistic make their use of the concept explicit or attempt to defend it.

Progress is being made toward clarifying the central issues involved in naturalism. Many contemporary philosophers who label their theories 'naturalistic' try to narrow the scope of their concept by identifying it within more familiar categories, i.e. methodological naturalism, ontological naturalism, etc. But again, the attachment of 'ism's does not solve the practical problem of identifying a sustainable concept. Not surprisingly, the projects that are the most motivated to define naturalism are those that fall outside the naturalist camp.⁴ These projects seek to undermine naturalism and therefore need something substantive in order to analyze and subvert. We must be careful to avoid straw men when defining naturalism *via* the critics, but their critiques, when accurate, lend valuable insight. I will make use of insights from proponents as well as critics of naturalism in order to make the concept as explicit as possible.

The task of this thesis is to identify the central ideas associated with naturalism as it is employed in the contemporary philosophical context for the purposes of providing a clear, identifiable, realistic, and plausible formulation in order to enrich current understanding of its role in contemporary philosophy and to subject it to a relevant critique. It is my contention that naturalism cannot be held consistently as an analytic philosophical position. Attempts to formulate naturalism in this way result in positions that are either unwarranted or not identifiably

⁴ William Lane Craig and J. P. Moreland, *Naturalism: A Critical Analysis* (London: Routledge, 2000), Steven J. Wagner and Richard Warner, *Naturalism: A Critical Appraisal* (Notre Dame: University of Notre Dame Press, 1993), Michael Rea, *World Without Design: The Ontological Consequences of Naturalism* (Oxford: Oxford University Press, 2002), Alvin Plantinga, *Warrant and Proper Function*, (Oxford: Oxford University Press, 1993), "Methodological Naturalism, pt. 1," *Origin and Design*, 18:1, 1997, "Methodological Naturalism, pt. 2," *Origin and Design*, 18:2, 1997.

naturalistic, that is, they are compatible with anti-naturalistic positions. However, it is easy to understand how a philosopher could be warranted, in a broad inductive sense, in personally holding naturalism. I will use the term "worldview" to denote this type of broad inductive position. I will argue that the naturalistic worldview is best characterized as the beliefs that the natural sciences are the sole authority for producing knowledge of any kind and that science possesses autonomy from any philosophical argument. I will show that, though the naturalist is unable to show a connection between naturalism and a contemporary conception of science, she remains rational in believing naturalism at the personal level. However, this belief is subject, as all worldviews, to questions of consistency and completeness. I will argue that naturalism as a worldview faces four possible defeaters, one undercutting and three rebutting, that are cause for concern if the naturalist cannot adequately surmount them.

The defeater that I propose undercuts belief in naturalism is that the openended nature of science precludes naturalism from ever being constructed analytically. Science has veto power over any philosophical argument so that naturalists' commitment to science, rather than providing analytic support for naturalism, is neutral concerning it. If science makes no claims about reality as a whole, then neither can naturalists. This open-ended posture toward a conception of reality runs contrary to naturalism's core disposition to the causal closure of the physical realm. Even if science came to the end of its efficacy and had defined everything that is scientifically detectable in terms of scientific data, then we would ask by what criteria this status could be determined and by what criteria it could be truly said that no causal process exists outside the scientifically detectable.

I will also propose three rebutting defeaters in the form of questions surrounding three fundamental concerns of human experience: justice, origins, and love. If a naturalistic explanation cannot incorporate the fundamental human experiences, desires, and questions surrounding these features of reality, then naturalism is not comprehensive in the way naturalists claim. I think my arguments at least give the naturalist sufficient reason to pause and consider other rational worldviews that do sufficiently incorporate and explain these features of reality. The ultimate question of whether these defeaters can be sufficiently surmounted must be left to future research and dialogue.

Naturalism is a reasonable position, warranted by the history of scientific success and the ubiquity of adherence to scientific progress among the world population. Nevertheless, naturalism is not strictly derived from any philosophical or empirical evidence, which restricts it to the status of a worldview. A worldview does not typically possess the resources to compel mental assent and most naturalist do not attempt a defense of their worldview. A person holding a specific worldview can construct arguments to the best explanation in favor of her worldview and some naturalists offer sketches of such a defense. Worldviews are also open, because of their epistemic status, to defeaters of various kinds. A naturalist will come to find his position unwarranted if he accepts defeaters that identify a contradiction within the concept itself—an undercutting defeater.⁵ A naturalist may find her position challenged if she accepts defeaters that

⁵ With regard to defeaters, I follow John Pollock's and Joseph Cruz's characterization in *Contemporary Theories of Knowledge, 2nd ed.*, that, "Defeasible reasons are those for which there are (possible)

constitute an alternative proposition, contrary to naturalism, concerning a question—a rebutting defeater. If the naturalist finds either of these defeaters successful, then she will have to admit that she is no longer warranted in holding naturalism on pain of irrationality. A worldview proceeds on the basis of what the theorist believes, so that one naturalist may come to think that he is unwarranted based on the success of a defeater, where another, upon viewing the same proposed defeater, does not find it successful and considers himself to remain warranted in holding his worldview. The implications of taking naturalism as a research program or worldview are epistemological, that is, specifically related to what the theorist can and cannot claim about the nature and source of knowledge on the program under consideration. The naturalist must come to terms with the epistemological implications which are, though not problems of self-referential defeat, still significant and possibly undesirable depending on the goal of an individual project.

I will begin in this chapter by fleshing out the terms of my investigation, defining 'science,' 'knowledge,' and 'justified belief' as they will be employed in the remainder of the project. In chapter 2 I will provide a contemporary definition of naturalism, identifying the distinctive, unifying characteristics common to almost every formulation of naturalism after Quine. In addition I will distinguish naturalism from the various positions in philosophy of science with which it is regularly confused or implicated, such as physicalism and empiricism. Given the complexity of and controversies over these

defeaters," and these include rebutting defeaters, where, "If M is a defeasible reason for S to believe Q, M* is a *rebutting defeater* for this reason if and only if M* is a defeater (for M as a reason for S to believe Q) and M* is a reason for S to believe \sim Q," and undercutting defeaters, where, "If believing P is a defeasible reason for S to believe Q, M* is an *undercutting defeater* for this reason if and only if M* is a defeater (for believing P as a reason for S to believe Q) and M* is a reason for S to doubt or deny that P would not be true unless Q were true," p. 196.

concepts this will be a particularly involved discussion, but one necessary for a comprehensive understanding of naturalism in its contemporary setting.

In chapter 3, after defining the broad category of 'strict analytic thesis,' I will identify the major conceptions of naturalism on the contemporary market. I will distinguish six types of naturalism: three minor versions—religious, evolutionary, and ethical—and three major versions—ontological, epistemological, and methodological. I will walk through contemporary formulations of each version, making them as explicit as possible. The discussion is intended to highlight the central issues common to current conceptions of naturalism, specifically those central to an adequate justification of any position claiming to be 'naturalistic.' By this point it should be obvious that the dispositions I identify at the beginning of chapter 2 are the defining characteristics of naturalism and are the characteristics around which its justification is concerned.

In chapter 4 I criticize naturalism as an analytic thesis. If it turns out that naturalists make claims beyond the scope of what is warranted by the sciences, then their position is unwarranted. If it turns out that naturalism merely reduces to identity with the methods of science, then it loses all normative force and becomes something other than naturalism. Positions that claim to be naturalistic but that rely on sources of justification that are unwarranted by science, or controversial according to science, are not clearly or uniquely 'naturalistic' at all. In addition, though it might be possible to justify naturalism on a constructivist or pragmatic conception of science, this characterization of naturalism is not the majority view and is not under consideration here. Since the majority of scientific progress is made under the impression that we are getting closer to an objectively accurate understanding of the world, I will take it that the second option is

6

open only if pragmatism can be defended as epistemically viable within a realist paradigm—that is, if it could be shown that what is useful is also true in a noncoherentist sense. But this is a question that I will not pursue.

In addition to criticizing naturalism as an analytic thesis, I will show that naturalists are warranted in holding naturalism as a worldview. This involves showing how certain perceptual information gathering devices work to help us form basic beliefs and therefore worldviews. Basic beliefs are typically held to a different degree than beliefs formed through argument and must be countered with defeaters that appeal to the subjective reasons behind the beliefs. Everyone has different sets of reasons for holding the same basic beliefs and the same is true with naturalism. But I offer several possible defeaters for naturalism, the complete efficacy of which will only be determined through dialogue.

If the scientific realist is ultimately unable to abide the difficulties and commitments posed by these defeaters, it may be desirable to abandon naturalism for hope elsewhere. To date, few philosophers define their version of naturalism explicitly as merely a worldview, though their usages are not typically in direct conflict with it. It is my contention that it is impossible to hold naturalism consistently without conceiving of it as merely a worldview, and that as a worldview we are *prima facie* justified in taking scientific evidence as epistemically basic, though not normative in any significant sense. And in virtue of taking science as the sole epistemically basic belief, naturalists hold that science exhausts the field of knowledge.

1.2: Clarification and Pitfalls to Avoid

If naturalism can be defined as explicitly as I hope to do, why do we need such a long and careful explication? If anyone coming upon the term naturalism could merely

7

affirm the use of the three methodological dispositions that I will outline and, with minor qualifications, determine different uses based on context, why undertake such an intricate project to appraise naturalism? There are four central reasons.

First, no one seems to have done so. The closest anyone has come to doing so seems to be Michael Rea's recent work *World Without Design*. There he argues, differently from me, that naturalism is not actually a philosophical thesis—what I am calling an 'analytic thesis'—at all and that any formulation of naturalism as a research program faces insurmountable ontological commitments. Also, he is not concerned to 'pin down' contemporary uses of 'naturalism.' Uses of 'naturalism' vary widely across the various areas of philosophy and science and the implications intended in some uses are less than clear. This means that naturalism in philosophy of mind differs significantly from naturalism in epistemology. It also means that sometimes it is not clear to what a philosopher is appealing by claiming naturalism; the qualification is either irrelevant or not interesting. There are common threads, as the methodological dispositions I will mention express, but given that the principle usage differs from context to context, it is necessary that we know the differences and the different implications of each. This work is an attempt to flesh out what is available to philosophers in naturalism.

Second, flat definitions impede understanding of the richness of theories intended by their authors. And so-called "cooked" definitions help even less. To take one example, David Chalmers, in his book *The Conscious Mind*,⁶ vows to take "consciousness to be a natural phenomena," and says that, "it is properly a scientific subject matter: it is a natural phenomenon like motion, life, and cognition, and calls out for explanation in the way that these do." With these careful qualifications few would disagree. But Chalmers

⁶ David J. Chalmers, *The Conscious Mind*, (Oxford: Oxford University Press, 1996) p. xiv.

further qualifies his arguments for solutions to the problem as "not open to investigation by the usual scientific methods," and he presents "conclusions that some people may think of as 'antiscientific'" while still claiming generally that his work is all "just part of the scientific process." So just how should we characterize Chalmers? On the one hand we want to say that he appeals to natural science as the only legitimate way of understanding the world. However he admits that he takes some arguably unscientific approaches, but argues that it remains within the process of science. It is evident from his other writings that he wishes to be a naturalist and follow science wholeheartedly. But at the same time he appeals to certain philosophical arguments that are not necessarily derived from empirical data. Without presenting the arguments in detail it is difficult to say what it would mean to say that Chalmers is or is not a naturalist. But, we may ask, what is he doing that is specifically naturalistic? He makes use of both science and logic; he makes warranted assumptions based on the best available scientific evidence and arguments to the best explanation-everything we should expect from any serious philosopher or scientist. He is not willing to push philosophy out to make room for more science; he says, "The problem of consciousness lies uneasily at the border of science and philosophy,"⁷ which should kick him squarely out of the naturalist camp as we shall define it. But he makes no generally unacceptable epistemological moves, aside from whether you agree or disagree with his conclusions.

The Chalmers example raises two important questions the naturalist (and we) must flesh out: (1) What makes a theory uniquely naturalistic, and (2) if science is the primary guide and norm for naturalism, is it possible to conceive science in a way that supports naturalistic intuitions? For the first question, if there is nothing unique about a

⁷ Ibid., p. xiv.

naturalistic theory, that is, if it is merely reducible to other well-known philosophies of science or merely the current methods of science, then it is superfluous. For the second question, if science cannot be justified without relinquishing naturalist intuitions, say, by accepting other philosophical theses, then one cannot reasonably call any position naturalistic. Therefore, just calling a theory naturalistic because it adheres to a relevant scientific methodology is not good enough. The justification of the central claim of naturalism (identified in chapter 2) is the central question this thesis will address.

Third, historical use of the term 'naturalism' varies greatly. The term 'naturalist' as applied to the famous wanderer and writer John Muir is significantly different from that which is applied to renowned epistemologist John L. Pollock, just as it is significantly different when applied to Descartes or Aristotle. The development of the term has caused genuine controversy. Many epistemologists reject the major thrust of Quine's "Epistemology Naturalized," though it was Quine who first inspired the move toward a "naturalization" of epistemology. Few philosophers hold the truncated ontology of D. M. Armstrong, but the specific aspects of Armstrong's theory that give rise to his ontology are not what qualify him as a naturalist.

Fourth, and most importantly, all positions carry with them implications. Some of these implications, if not successfully substantiated within the theory, can break a theory down the line. Naturalism as a worldview seems to carry implications that lead away from the goal of traditional philosophical queries into the nature of reality, at which many naturalist projects are currently aimed, which include compelling intellectual assent in the view under consideration. On one hand, nonempirical knowledge, such as that of memory and the perception of time, cannot be derived from *direct* experience,⁸ so that empiricism as a scientific conception of the world remains agnostic concerning the truth-value (though not necessarily the reliability, as we will see) of this knowledge, and therefore fails as a defense of naturalism. On the other hand, worldviews, as we shall construe them, are not at *liberty* to extend normative authority into other projects of inquiry. This is because they cannot determine relevantly basic beliefs for other programs to thereby provide *compelling* justification to those who do not agree with their own properly basic assumptions. Since the naturalist, in most cases, desires to compel belief that science is the only available project for determining accurate, representational, and most importantly, comprehensive knowledge to a rational world, she might have to turn her attention to rooting out the basic beliefs of every other worldview before she can reasonably begin her own project. I will flesh this out more thoroughly in chapter four.

1.3: Defining Ineffable "Science"

One of the central themes of naturalism, shared among its historical and contemporary versions, is that all inquiry must begin with and regulate itself by the methods and findings of the natural sciences. Most naturalists hold a version of moderate empiricism, which holds both science and logic to be basic, with the provision that logic is insufficient to provide propositional content about the world. Naturalists hold that logic is continuous with science providing a rational framework from within which empirical claims can be clarified and tested. Some hold a more radical empiricism, on which even our knowledge of logic is contingent upon scientific progress, especially progress in the

⁸ Though they do constitute 'experience' of some kind. This is a contentious claim, given that memory is very similar to sensory perception, though not 'as direct,' in some ways. I will make this connection more explicit in a later section.

field of evolutionary biology.⁹ Since this latter view is still in the minority, I will accept that most naturalists hold logic as basic and tautologous, rather than empirically derivable. Apart from logic, philosophy is not relegated to the mere role of the clarification of concepts, as it was for the positivists. Naturalists feel much more free than philosophers of decades ago to extend philosophy into scientific theorizing, armed with knowledge of 'scientific revolutions' and the conceptual workings of Darwinism. Naturalist Alex Rosenberg comments:

Philosophy neither needs to nor can it defend itself as merely the logical clarification of thought. It need no longer fear to tread the ground hitherto reserved for science, and it must be assessed on the same standards as very abstract scientific theory. For that is the only thing philosophy can be for those who accepted [Quine's] 'Two Dogmas.'¹⁰

Other naturalists extend philosophy into the age-old philosophical questions using their working knowledge of science as a measure against which the old problems stand or fall. This is especially the case with subjects like intentionality and ethics. But before we begin to characterize naturalism we must first attempt to characterize, as adequately as possible within the confines of this project, the view of science that moderate empiricists, and therefore naturalists, presently hold.

To begin, we must recognize the difference between science as a method of inquiry and science as a worldview. For many naturalists, science is "Science," the unified whole of hypothetically complete data gathering and interpretation processes that speak through past discoveries, into all future possibilities of inquiry. As unreasonable as this sounds, it is common for scientists and philosophers to speak this way. This is science as a worldview. The reflective reader will see through this *ex cathedra* heraldry and, hopefully, penetrate to the meat of data and reasoning that actually purports to say something about the relationship between science and philosophy. Science as a

⁹ Cf. John Cooper, *The Evolution of Reason: Logic as a Branch of Biology* (Cambridge: Cambridge University Press, 2003).

¹⁰ Alex Rosenberg, "A Field Guide to Some Recent Species of Philosophical Naturalism," British Journal for the Philosophy of Science, vol. 47, (1996), p. 2.

worldview and naturalism as a worldview are very similar because of the content of their beliefs concerning science's hegemony. There is a difference and it typically revolves around the open-ended nature of the scientific process. Scientism tends to be more absolutist about the status of scientific findings and the concept of science's hypothetical completion. Naturalism on the whole is aware of the limitations of science and emphasize its incompleteness, but also emphasize the power and flexibility of the methods of science to pursue any avenue that opens through research. For some there is no difference at all, as with philosopher of science Jerry Fodor, who admits of holding scientism but does not argue in terms of science as hypothetically complete.

With so much hype from "popular" science writers, it is difficult to separate science from the scientist. Dallas Willard criticizes philosophers who make universal claims about all types of entities (universal ontological claims) or all legitimate methods of inquiry (universal epistemological claims), and who invoke Science as their justification for these claims. He writes, "The naturalist must then have recourse to that popular but philosophically suspect abstraction, 'science' itself, which says even less than the individual sciences about the nature of reality as a whole, because it says nothing at all."¹¹ Willard claims that science says nothing about reality as whole, but particular scientists *do*. And it seems true that determining when scientists are speaking 'scientifically' and when they are not can be frustrating.

Willard quotes John Searle as an example of a philosopher who "reifies" science. Concerning a scientific view of the world, Searle claims that it includes "all of our generally accepted theories about what sort of place the universe is and how it works,"

¹¹ Dallas Willard, "Knowledge and Naturalism," in Craig and Moreland, *Naturalism: A Critical Analysis*, p. 28.

and "theories ranging from quantum mechanics and relativity theory to the plate tectonic theory of geology and the DNA theory of hereditary transmission."¹² But Willard says that, the theories of science cannot determine an ontology, in the sense of specifying the nature of that which exists or identifying all the types of entities that exist. The ensuing ontology of the scientific worldview would have to be something like a "very long conjunctive sentence" containing all the theories Searle mentions and calling *that* a "worldview":

But this will hardly do what he wants. One thing that will not show up in such a conjunctive sentence is any claim about reality as a whole or knowledge in general. Such specific scientific theories as those just mentioned—and no matter how many of them we may list—cannot provide an ontology. They never even attempt to determine what it is to exist or what existence is, and cannot by the nature of their content provide an exhaustive list of what ultimate sorts of things there are.¹³

Willard has raised an important issue for the naturalist. If we are going to allow science to be the justification for a position, we must have a reasonably clear idea of that which we are calling science, and in what sense we are using science to denote a relevant justification. In addition, we must have a clear view of what our justification can and cannot accomplish. It is eminently more reasonable to think of science as a method of inquiry with contingent, fallible claims. I am emphasizing this distinction because too many times, even in academic literature, current scientific findings are confused with a scientist's opinion or bias.

On the other hand, we must not be too quick to criticize statements of belief found within scientific writings. The complex mixture of scientific research methods and theory-choice now available make determining 'good' science very difficult. Primacy is still given to empirical data obtained through ever more accurate instruments. Hypotheses

¹² Ibid.

¹³ Ibid.

and experiments are still our best reasoning tools at the ground level. But higher up, at the level of meta-theory—justification for scientific knowledge and justification for theory choice—things get much more difficult.

In fact, a complete epistemology of science escapes philosophers to this day.¹⁴ The advances in the theory of logic that the positivists accomplished have helped our understanding of the "logic of confirmation" but have yet to solve Hume's problem of induction, or Goodman's "new riddle of induction," or answer the question of when "evidence provides a positive instance of a hypothesis."¹⁵ Alex Rosenberg explains that,

Even if we adopt the most widely accepted account of theory confirmation, we face a further challenge: the thesis of underdetermination, according to which even when all the data are in, the data will not by themselves choose among competing scientific theories...This conclusion, to the extent it is adopted, not only threatens the empiricist's picture of how knowledge is certified in science but threatens the whole edifice of scientific objectivity altogether...¹⁶

This is not the whole story, since science is still an extremely successful enterprise. There is no reason to write-off scientific progress because we do not know where all the strings attach. But it is enough to indicate that science has no *definitive* boundaries and definitions on which one can rely. But knowing this will keep us from construing science too narrowly and confining the naturalist to an untenable view of science. Contemporary naturalism finds itself caught in the evolving definitions of the "best available" scientific theories in all the various disciplines. Therefore, a broad conception of what counts as 'good' science will serve both the interests of naturalists and anti-naturalists. Michael Rea provides us with a generous reading of science around

¹⁴ Alex Rosenberg, *Philosophy of Science: A Contemporary Introduction* (London: Routledge, 2000) chapter 5.

¹⁵ Ibid., p. 131.

¹⁶ Ibid., p. 107.

which to frame a conception of naturalism. Whenever I refer to science, unless otherwise qualified, this is the conception to which I am referring:

...[T]he methods of science are, at present time anyway, those methods (including canons of good argument, criteria for theory choice, and so on) regularly employed *and* respected in contemporary biology, chemistry, and physics departments. Reliance on memory and testimony is included in the methods of science, as well as reliance on judgments about apparent mathematical, logical and conceptual truths. *Perhaps* saying the latter implies that naturalists are committed to treating the appearance of mathematical and logical necessity, as well as the appearance of conceptual truth, as basic sources of evidence. But even if this is so, it does not follow that naturalists are committed to treating the appearance of evidence.¹⁷

In addition, I take it to be widely accepted that scientific methods are designed and intended to produce *truths* about the world, that is, theories that increasingly approximate *truth* as opposed to those determining increasing *usefulness* or reliability within the context of a goal-directed system. This is by no means uncontroversial, given the number of anti-realists working in philosophy of science. But this project will deal specifically with a realist version of naturalism, since it seems to be the dominant conception in the practice of philosophy and science. In addition, Dallas Willard provides an account of knowledge that will serve this project well.

Knowledge itself, then—and, more weakly, justified belief—is simply belief that is produced in a certain way, for example, in ways that are *reliable*, ways that tend to produce true beliefs in actual as well as counterfactual situations that are relevant alternatives to the actual situation.¹⁸

The 'reliability' of our cognitive functions for providing information that approximates *truth* is controversial. For now I will presume, or take it to be a basic belief, that our cognitive faculties are indeed composed such that, under normal conditions, they support reliable belief-forming processes and truth-approximating representations of reality. This presumption will be scrutinized later when I will raise the question as to

¹⁷ Rea, World Without Design, p. 67, emphasis his.

¹⁸ Willard, "Naturalism and Knowledge," p. 25, emphasis his.

whether unaided evolutionary processes are adequate for producing these types of faculties.

These definitions provide us with a conception of the scientific project that resists strict reduction, at least *prima facie*, to pure pragmatism (because pragmatism is an anti-realistic program), physicalism (since scientists frequently posit nonphysical—or at least indirectly physical—entities for the purpose of theory construction, i.e., memory, intentional states), and (moderate) empiricism (because scientists frequently appeal to non-empirical entities, i.e., infinitesimal singularities, quanta). These will be explained in the next section. It might be that the naturalist has to truncate these definitions to remain tenable, but it is possible that in doing so, she will undermine her strict commitment to natural science; therefore, I will not entertain this possibility. If naturalism comes into conflict with these definitions, I will take it that the demand for revision or rejection will be on the naturalists' shoulders, and not the scientists'.

Naturalists' holistic commitment to science is usually justified by appeal to the success of science itself. They typically claim no further justification for the fact that science is a reliable, truth-approximating procedure than its glorious history of providing ever more reliable and successful means of predicting and manipulating reality. This, of course, is a pragmatic justification on a coherence theory of truth. Though it is not clear that pragmatism is not an epistemically reliable truth-approximating process, most philosophers of science reject pragmatism as *sufficient* justification for truth claims.¹⁹ The problem, traditionally, is that if pragmatism is to be considered truth-approximating, the judgment for this would have to take place outside of pragmatism itself, since pragmatism only reveals what works best for a given situation in relation to pre-specified

¹⁹ Fodor, Kitcher, Rosenberg, etc.

goals. Therefore we have to turn to something more epistemically basic (though not unrealistically foundational) than pragmatism to justify the typical naturalist claim concerning the truth-approximating nature of science. I take it that most naturalists want a theory that is justified in revealing reality and not "systematic empirical success," and therefore, for them, pragmatism is not a clear option for justification, even broadly inductive justification, of scientific methodology.²⁰ What the naturalist needs is a warranted, scientifically agreeable starting point from which to judge philosophical claims, and then to remain within the confines of the scope of this starting point, since knowledge claims beyond the scope of science are considered illegitimate.

None of this implies that science has lost its intimate connection with empiricism in general, or that it should let it go. Broadly empirical methods are still the most reliable methods for determining physical reality available to the human mind. I qualify 'empirical' with 'broadly' to avoid any connection with certain narrow, pre-positivist foundationalism. Therefore, science is more than a reasonable choice for a picture of the world. The question is only the nature of the picture. Is it the whole story? Steven Wagner and Richard Warner explain:

Although few philosophers today accept positivist views of observation and inductive logic, a favored epistemic status for natural science is not so easily dismissed. A principled, albeit rough, demarcation of natural science from other forms of inquiry still seems possible—the category is not arbitrary. It is also hard to deny that science enjoys particularly close ties to observation, or that telling good from bad reasoning is easier in science than elsewhere. These features give rise to certain salient features of science: relative clarity, objectivity, and the (generally) cumulative growth of knowledge. For contemporary naturalists, these are doxastic virtues sufficient to establish the epistemic superiority of science.²¹

For all the reasons of the previous paragraph it should be clear that I do not intend to argue against scientific methods or findings. On the contrary I intend to make use of

²⁰ This is not the final word, however, as we shall see that the progress of evolutionary theory might provide a pragmatic route to epistemically reliable belief-forming processes. Cf. chapter 2.7. ²¹ Naturalism: A Critical Appraisal, p. 6.

common scientific practices and findings as a backdrop for understanding and criticizing the claims of naturalism. Therefore, though science and its methods are vexed at some levels, we must recognize that they can be delineated and are comprehensible, and that broadly empirical methods are still among our most reliable. I will argue later that science alone cannot justify a realist perspective, but that the addition of a warranted belief in either intuitionism or supernaturalism is required. The question for naturalism concerns its claims concerning the type of information that science can produce and whether it exhausts the field of inquiry. I will argue that there are certain defeaters that should give naturalists pause, though I will leave the ultimate conclusions to future research.

Before moving on I should note that I am taking the term 'ontology' in its etymological usage, '*logos to on*': the study/logic/pattern/science of that which 'is.' The implication is that of *existence*, and an ontology includes those entities or events that can, with proper qualification, be reasonably claimed to exist. Therefore, as with any philosophical position, only the entities warranted within its scope of justification can be reasonably claimed to exist.

1.4 Defining Justification and Knowledge

When we ask whether a position is justified, we must first qualify the relevant intent of the theory; the "justified for what?" which identifies the implications for the type of information a project (of inquiry) is designed to yield. The justification for belief in a project must be adequate to the scope of the claims of the project. If the project can reveal only empirical facts, then it is insufficient to justify an ontological thesis that includes anything undetectable by scientific methods. If a project recognizes that its scope is merely pragmatic, then we may say a person is justified in continuing that

19

project if the results are consistent with the goals of the pragmatic program, for instance, efficiently manipulating objects so that they produce certain patterns. If one project accomplishes this more quickly and easily than another then that is the "correct" procedure. No other knowledge may be obtained from this procedure without additional justificatory grounds rooted in reasoning beyond those that are pragmatic.

Traditionally we have held that for a belief to be "rational" it must be justified in some relevantly foundational sense. This has typically taken an evidentialist (not necessarily empirical) tone, which is a necessary but insufficient condition. Laurence Bonjour echoes this sentiment:

Perhaps the most pervasive conviction within the Western epistemological tradition is that in order for a person's belief to constitute *knowledge* it is necessary (though not sufficient) that it be justified or warranted or rationally grounded, that the person have an adequate *reason* for accepting it. Moreover, this justifying must be of the right sort: though one might accept a belief for moral reasons or pragmatic reasons or religious reasons or reasons of some still further sort and be thereby in a sense justified, such reasons cannot satisfy the requirements for knowledge, no matter how powerful, in their own distinctive ways, they may happen to be.²²

Bonjour goes on to qualify his use of the phrase "the right sort" in same way that I

have done above when I said that a belief must be adequate to the scope of the claims of

that individual's project of inquiry:

Knowledge requires instead that the belief in question be justified or rational in a way that is internally connected to the defining goal of the cognitive enterprise, that is, that there be a reason that enhances, to an appropriate degree, the chances that the belief is *true*. Justification of this distinction, truth-conducive sort will be here referred to as *epistemic justification*.²³

Justification is not an uncontroversial topic, especially in light of several

important works in religious epistemology. We must be careful how we couch our use of

"justification." If we insinuate an evidentialist framework, such as that of Locke, then we

²² Laurence Bonjour, In Defense of Pure Reason (Cambridge: Cambridge University Press, 1998) p. 1, emphasis his.

²³ Ibid., emphasis his.

will be overlooking important daily occurrent beliefs that we all concede to be "justified" in holding, such as belief in other minds. If we take a phenomenological perspective, then there is little that could be realistically proscribed as illegitimate, since all knowledge reduces to incorrigible perceptions. What we need is a broadly construed, experientiallybased starting point, which is not empiricism, that makes room for common sense beliefs as well as scientific findings, yet that is concrete enough to identify irrational or unscientific positions.

As an example of this difficulty, consider Alvin Plantinga's critique of William Alston's "Alston Justification." Alston defines justification in terms of "grounds" rather than evidence, in order to avoid the classical problems of defining 'evidence' too narrowly. But Plantinga shows how even Alston's definition is insufficient. Alston writes:

...to be justified in believing that p is to be in a strong position for realizing the epistemic aim of getting the truth...I will begin by making the plausible assumption that to be in an epistemically strong position in believing that p is to have an adequate ground or basis for believing that p. Where the justification is mediate, this ground will consist in other things one knows or justifiably believes. Where it is immediate, it will consist typically of some experience...²⁴

Plantinga responds in three ways, of which I will explain two.²⁵ First, he says that daily memory beliefs do not have mediate grounds. Consider that you had a banana for breakfast: this belief is not propositional—you do not infer it from other beliefs, such as that bananas exist or that you owned one prior to this morning; you don't infer it from experiential factors such as that it is now lunchtime, that the place where my banana was is empty, that there is a peel in the trash. The belief that you ate a banana is similarly not based on experiential belief, in that memory images are not sensory or phenomenal in the

²⁴ William Alston, *Perceiving God* (Ithaca: Cornell University Press, 1991), p. 73.

²⁵ The following arguments are found in Alvin Plantinga, *Warranted Christian Belief* (New York: Oxford University Press, 2000), pp. 105-07.

usual sense. Plantinga goes on to argue that a priori beliefs such as deductive arguments—"Necessarily, if all men are mortal and Socrates is a man, then Socrates is mortal."26-do not have "grounds" in the mediate or immediate sense that Alston indicates. This is because, though the belief may have an associated image-say, an English sentence on a board in a classroom—"surely the belief isn't formed on the basis of that imagery; that imagery isn't anything like a ground for it..."²⁷ One might counter that the memory of the banana constitutes a "justifiable belief" and therefore succeeds as a mediate ground. In addition, one might "know" that the logical structure of the syllogism named "Darii" is valid, of which the argument concerning Socrates is a form, and which would then be sufficient for Alston Justification. But Plantinga's point is that memories are not mediate, they are, if anything, immediate. No reasoning process need take place to be justified, or perhaps, no justification is needed. It is also his point that a syllogism like that concerning Socrates could be justifiably accepted by someone who has never been in a logic class without any significant reasoning processes.

Second, Plantinga notes that some beliefs do have truth-conducive grounds though some of them are unreasonable. He considers the proposition $29 \times 38 = 1102$, and that the probability of this proposition is 1 under any condition, so that, according to Alston's criteria, no matter why I believe this proposition, I am justified in doing so. Plantinga humorously illustrates that, "just because I picked up a comic book on the sidewalk and found therein a character who claims that [the equation] is his favorite"²⁸ does not mean that it is rational to believe it, even though the equation has a truth-

²⁶ Ibid., p. 106. ²⁷ Ibid.

²⁸ Ibid., p. 107.

conducive ground. My purpose here is only to identify the difficulties of specifying a well-defined starting point for the experiential component of justification.

For this project, I want to highlight the senses of "justification" as I will use the term. In the first sense I will just use "justification" and will employ it in the evidentialist sense, as when naturalists appeal to the success of science as a reason for their rejection of the *a priori*. In the second sense, I will use the term "warrant," unless otherwise indicated, which will describe when a person is in a rationally acceptable state of belief, as when naturalists appeal to science as "warranting" their belief in the sole adequacy of science as a method of inquiry into reality, rather than providing direct evidence or argument to that effect. In this second sense it is similar to what Plantinga calls "epistemic warrant":

(EW) A belief has warrant for a person S only if that belief is produced in S by cognitive faculties functioning properly (subject to no dysfunction) in a cognitive environment that is appropriate for S's kind of cognitive faculties, according to a design plan that is successfully aimed at truth.²⁹

I do not need to go into the extensive details of this definition, but only note that any project for which philosophical justification is attempted and that accepts sensory experience as properly basic while retaining a realist view of science (that is, that science produces knowledge), must indicate *why* cognitive faculties might be adequately *aimed* at this task. It must also be noted that such a position is defeasible and knowledge is contingent upon the relevant 'normal' conditions being in effect, as well as the wider interrelation of correctly functioning cognitive states necessary to interpret the information once received. If the terminology of '*design* plan' is undesirable, (since Plantinga intends it in the teleological sense of a divine designer) the theorist may

²⁹ Ibid., p. 156.

substitute an appropriate evolutionary account, though, as we will see in section 2.7, Plantinga would regard any evolutionary account as intrinsically unsuccessful.

A naturalist may take it that science warrants belief in itself as the most effective method of inquiring into the efficient means of predicting and controlling reality. In this case it is generally accepted that the naturalist is taking an anti-realist approach and accepting a pragmatic justification. The naturalist could even say that he was 'justified' (my first sense) in the belief that science is a self-justified enterprise of reliable inquiry into the world. Neither of these two theses are disputed in this project. But as I understand it, neither constitutes the central thesis of naturalism. My project is specifically aimed at naturalism that claims that science is the sole producer of 'knowledge of reality' in the classical 'correspondence' sense. I am not concerned to analyze anti-realist or pragmatic projects.

I accept that certain experiential beliefs are held rationally (are warranted), even if we feel we possess no conceivable capacity to compel assent in the same beliefs from others. We may not be able to construct a deductive argument to the conclusion that our belief necessarily follows, but we may rely on broadly accepted justificatory environments to support a claim that we have an epistemic right to a belief; that is, we did not form the belief in an irrational manner. One question for naturalism will be whether it is possible to derive warrant from experiential beliefs that are intrinsic to science for the belief in their efficacy in approximating truth. The central question for naturalism is whether we can derive warrant from those same experiential beliefs for naturalism's claim concerning science's sole authority in producing knowledge to the exclusion of all other epistemological projects.

24

It is also important that we have a conception of what I am calling "knowledge" in its contemporary philosophical setting. Without plotting an extensive analysis, suffice it to say that, as classically understood, knowledge consists of a dispositional state, which involves "the capacity to represent a respective subject matter as it is, on an appropriate basis of thought and/or experience."³⁰ In this sense, knowledge involves truth, that is, the "matching up," or correspondence, of a mental representation to reality, though the cognitive faculties instantiating this representation may be defeasibly flawed or outside of the conditions under which such representation might be made accurately. In addition, knowledge involves logical grounding. Here I do not mean an extensive reductionism like that of foundationalism, but merely a working grasp of the logical relations 'consistent,' 'inconsistent,' 'identity,' etc. Even if Alston Justification is not completely sufficient, it is certainly necessary. "Belief" is necessarily involved, since the event of our coming to knowledge is defeasible. One person may feel that his warrant for a belief has been defeated by an argument, where another may remain unconvinced. Unless the defeater clearly identifies a contradiction, the individual remains warranted in his belief. In addition, we may reasonably hold a conception of what *would* constitute knowledge even in the absence of those beliefs that include or come to include it. This is the characterization of 'knowledge' accepted by most contemporary naturalists. Some may choose a different concept of 'truth,' such as the coherence theory, but most are realists and want correspondence with reality. The version of truth I have described differs from the classical picture in its rejection of foundationalism and its addition of the role of belief and defeasibility.

³⁰ Dallas Willard, "Knowledge and Naturalism," p. 31, emphasis his.

Now that I have defined science, justification, warrant, knowledge, and truth as naturalists typically construe them, I will now indicate why I feel the project of defining naturalism in its contemporary form is important to the philosophical conversation before moving on to define it explicitly in chapter 2.

1.5: Before Defining Naturalism—various uses, various fields.

William Alston, in his article, "What is Naturalism, that We should Be Mindful of It?"³¹ gives us good indication of why a project such as mine is so important in the contemporary literature. He says that defining naturalism, if conducted in a way that merely reflects the usage of the term, leads invariably to incoherence. The intricacy of application of so-called naturalistic terms is extremely field-centric. For example, in philosophy of mind the term 'naturalism' is used most specifically of intentional states, to proscribe the hint that these might not be physical. In ethics naturalistic concepts are described in terms of physical properties that exhibit emergent moral characteristics identifiable by human perception, and which proscribe appeal to transcendental ethical absolutes.

Alston says that even when we try to pinpoint specific naturalistic tendencies common to the discipline, we get into trouble:

...[S]eeing what naturalists work with when giving "naturalistic" accounts of various entities fails to give us unambiguous guidance to what is supposed to be "natural". But we are not totally without attempts to say in general what naturalism amounts to. Consider Arthur Danto's article on Naturalism in the *Encyclopedia of Philosophy*, where he writes:

The entire knowable universe is composed of natural objects - that is, objects which come into and pass out of existence in consequence of the operation of "natural causes".

³¹ William Alston, "What Is Naturalism, that We Should Be Mindful of It?" Leadership University, December 2002, http://www.leaderu.com/aip/docs/alston-naturalism.html.

A natural cause is a natural object or an episode in the history of a natural object which brings about a change in some other natural object.

A natural process is any change in a natural object or system of natural objects which is due to a natural cause or system of natural causes. (Vol. 5, p. 448)

'Natural object' is explained in terms of 'natural causes'. 'Natural causes' is explained in terms 'natural object'. 'Natural process' is explained in terms of 'natural object' and 'natural cause'. This is a very small circle, or system thereof. It can hardly be supposed to throw any radical light on what it is for an object, cause, or process to be *natural*. The closest Danto comes to breaking into the circle comes when he introduces science and scientific method as our only source of knowledge of the world.³²

Circularity of the type explained here will haunt any concept of naturalism. The concept of naturalism is built on the success and utility of experimental methods, that is, its ability to warrant itself as consistent and as a generally truth-approximating account of the natural world. Therefore, if held to be a consistent analytic thesis, the naturalist must explain this warrant without reference to mere pragmatism, unless pragmatism proves to be an acceptable method of epistemic justification. If it is taken to be purely self-justifying, then science itself is accepted as a properly basic source of knowledge, which makes it irrational as a realist project, that is, without warrant for realism, but tenable as a research program.

Given the vast intricacies among and within philosophical and scientific disciplines and positions, naturalism has been attached, in one way or another, to a large number of individual positions. Unlike the positivist tendency to reject traditional philosophical problems, naturalists have regularly done just the opposite. It is typically assumed that now that science has taken the position of rational hegemony, it is reasonable to apply it to every traditional philosophical issue, determining the nature of language, knowledge, consciousness, material constitution, ontology, and religion. But in

³² William Alston, "What Is Naturalism, that We Should Be Mindful of It?" p. 5.

each of these fields, naturalism is couched differently. The Darwinian arguing against the Creationist will characterize naturalism as having those specifics needed to support the arguments, specifically physicalism and atheism, and *vice versa*. The philosopher of mind who wants to maintain a nonreductive line between reductionism and dualism will invoke a naturalism with the characteristics to mark out the edges of her argument, usually the necessity of physically causal reductive links. Some philosophers, like David Chalmers, get so close to dualism that it looks as if they've crossed over at points, so they qualify their theory as naturalistic from the start to allay any fears of the anathema 'dualism.'

There is nothing irrational in this, given that each field incorporates a mode of dialogue that is unique to its domain and to which the naturalist must comport himself. But the extensive variety of domains and dialogues makes it difficult to deal with "naturalism" as a position, since it has different implications in each philosophical area.

Despite vast differences and implications in various fields, naturalism seems always to revert back to an epistemological position. Naturalism specifically identifies a manner (science) in which we investigate a subject (the world) and then makes claims concerning the criteria for legitimate knowledge based on the methods and findings of this manner of investigation. Therefore I intend, in the next section, to carefully identify some of the basic, common assumptions among characterizations of naturalism that constitute its central claim. These are assumptions that many think are indispensable for any seriously naturalistic claim. From there we can determine if there is a relevant sense in which science warrants these central assumptions for the naturalist.

28

...[N] aturalism is but science in the role of philosophy.

(Ralph Barton Perry, Present Philosophical Tendencies, 1912)

Chapter 2: Defining Contemporary Naturalism

2.1: Respect and Care for Conceptual Terms

A theory is naturalistic if it makes an attempt to bring all hypotheses, ontological claims, and concerns about knowledge into the scope of the natural sciences. This characterization of naturalism is supported by the majority of naturalists including, John Pollock, Robert Pennock, Scott Sturgeon, W. Sellars, Arthur Danto, Frederick Schmitt, Alvin Goldman, W. V. O. Quine, Brian Leiter, Jean Hampton, Alex Rosenberg, and many others. Naturalist Michael Devitt writes, "There is only one way of knowing: the empirical way that is the basis of science (whatever that way may be)."³³

There are a few dissenters, at least to the strict ascription of 'science' to naturalism. Those who do not accept the above characterization claim to choose a broader characterization for naturalism, allowing for the possibility that naturalism might not "automatically" generate an interest in science.³⁴ They claim to accept broader types of *a posteriori* insight that are (supposedly) not necessarily scientific. These philosophers include Susan Haack, Keith Lehrer, and Jaegwon Kim. Susan Haack explains:

Does science have special epistemic status? Thinking about this question at a commonsense level, unalloyed by an sophisticated epistemological theory, I should be inclined to answer 'yes and no'. 'Yes', because science has had spectacular successes, has come up with deep, broad and detailed explanatory hypotheses which are anchored by observation...; 'no', because although, in virtue of those successes, science as a whole has acquired a certain epistemic authority in the eyes of the lay public, there is not reason to think that it is in possession of a special method of inquiry unavailable to historians or detectives or the rest of us, nor that it is immune from the susceptibility to fad and fashion, politics and propaganda, partiality and power-seeking to which all human cognitive activity is prone.³⁵

³³ Michael Devitt, "Naturalism and the A Priori," *Philosophical Studies*, Vol. 92, 1998, p. 45.

³⁴ John Pollock and Joseph Cruz, Contemporary Theories of Knowledge, 2nd ed. (Lanham, MD: Rowman and Littlefield, 1999) p. 164.

³⁵ Susan Haack, *Evidence and Inquiry* (Oxford: Basic Blackwell, 1993) p. 137.

If there is a difference here between general empirical bases for inquiry and the methods of natural science I am unsure what it is supposed to be. Pollock writes that this is more of a "less committal version of naturalism where the influence of empirical insight is understood widely enough to include many types of a posteriori inquiry."³⁶ But what would a posteriori insight include if not human experience, the reliability of which is the foundational presupposition of science. And while Pollock notes that this characterization has been "somewhat less influential in discussions of naturalism,"³⁷ it is unclear that this broadly construed commitment to perceptual insight is not just the central adherence of science in the first place. If it is, then the distinction between these conceptions of naturalism is trivial. This view, as explained by Pollock and Haack, is somewhat ill defined and, even though it takes experience as basic, it is even more vulnerable to the charge that naturalism offers us nothing new or insightful. Therefore I will address only the former, widely held view that naturalism is, first and foremost, committed to science as the only legitimate method of attaining knowledge, and that this does imply a commitment to broadly held perceptual beliefs.

More specifically, then, we may say that naturalism generally consists of a commitment (1) to the reliability of human experience, (2) to scientific realism, as opposed to constructivism, instrumentalism, or antirealism, (3) that is usually congenial to abstract objects such as universals, sets, propositions, etc., though it need not be inconsistent with nominalism, which is not congenial to these entitie, (4) and three methodological dispositions: (i) an absolute commitment to the methods, findings, and authority of the natural sciences, (ii) a commitment to the causal closure of the natural

³⁶ Pollock and Cruz, p. 164.

³⁷ Ibid.
world (physicalism), and (iii) a rejection of *a priori* (or 'first') philosophy. Naturalism more generally implies the concepts of (broad) empiricism and pragmatism (because of the "success" of science), while rejecting strict identity with either one, since neither is sufficient to guarantee naturalism. The central claim of naturalism is that science is the only legitimate method of obtaining knowledge. This means that, according to naturalists, if there is a legitimate claim to knowledge about a subject, that claim is a result of or consistent with the findings or methods of the natural sciences, and is obtained in ways that are grounded in the experiential presupposition of science that perception is generally reliable.

Concerning the definition of naturalism Michael Rea writes:

No one will doubt that the methodological dispositions shared by Quine and Dewey high regard for science and scientific method, a disposition to employ scientific methods and results in all domains of inquiry as much as possible to the exclusion of a priori speculative methods, opposition to theories, particularly religious ones, that are untestable and do not play any significant role in filling out interstices of scientific theory—are the crucial dispositions of naturalism.³⁸

This characterization is echoed in the work of several contemporary naturalists.

John Pollock defines naturalism in terms of the justification required to make it

consistent:

Naturalistic Justification = df.

A theory of justification is naturalistic if it maintains that epistemology should either consist partly or wholly in empirical disciplines, or should be informed by the results of empirical disciplines.³⁹

In 1944 William Dennes wrote of naturalism that it "leaves to ordinary scientific

observation and inference all questions as to what the patterns of processes in the world

probably are."40 The idea that science should be conceived as a negative constraint on

³⁸ Rea, p. 49.

³⁹ Pollock and Cruz, p. 165.

⁴⁰ William Dennes, "The Categories of Naturalism," in Yervant Krikorian, Naturalism and the Human Spirit (New York: Columbia University Press, 1944) p. 288-89.

theories is also evident in the work of Christopher Cherniak (1986), Hilary Kornblith (1989), and Paul Thagard (1982). Pollock, along with most contemporary naturalists, takes an anti-justificationist position regarding science, going back to a Quinean-type empiricism, claiming that the human cognitive faculties are only justified by our scientific understanding of them. This means that knowledge comes only in light of science and cannot provide a justification for science prior to or apart from the methods intrinsic to science. Pollock says that he is following Daniel Dennett's (1971) suggestion of a "design stance" that states something to the effect that the only way to judge rational behavior is to examine the way we, as agents, perform cognitive tasks, from within the constraints of the cognitive faculties that perform those tasks:

It can be argued that many of the general features of human cognition represent the only, or the only obvious, way of performing various cognitive tasks consistent with the various logical and computational constraints that must be satisfied by any real agent.⁴¹

Naturalists do not typically attempt any justification for science apart from highlighting its pragmatic success as an epistemology. Science has told us significant facts about the world, more than any other program of investigation, and therefore deserves credence. At this point, then, we shall tentatively define naturalism as taking the methods and findings of contemporary science as justification for the thesis that scientific methods alone are sufficient to determine reality. But does this anti-justificationist stance concerning science allow naturalists to forego justifying their belief that science is the exclusive method of obtaining knowledge? Many treat their posture toward science as just such an excuse. However, there is an underlying premise that is unsupported by science, namely, that science gives us a picture of the world complete enough and

⁴¹ Pollock and Cruz, p. 173.

successful enough in its endeavors to reject any additional avenues. At the end of this project I will raise some questions that challenge this presupposition.

2.2: Then what's an anti-naturalist?

If science is such a ubiquitous and successful aspect of the contemporary academic world, and if naturalism involves a strict commitment to science, who is *really* an anti-naturalist? The answer is complicated, but in general, anti-naturalist positions usually entail adding something to science, claiming that whatever the addition is, it is just as legitimate as science as a source of knowledge. The addition could involve any number of philosophical commitments that purport to introduce something *a priori* into knowledge content (as opposed to merely tautologies), or they may introduce substantive analytic arguments whose conclusions involve entities or processes inaccessible to scientific methods. Also, any position that claims to adhere strictly to science, but does not prescribe such adherence as normative or does not claim that science is the only legitimate method of knowledge is not specifically naturalistic. This is the case especially with apologetic work in religious epistemology where some proponents still hold a high view of natural theology.

Michael Rea argues that, when defining naturalism, a theorist must take certain precautions to avoid characterizations that fall outside the boundaries of naturalism. He claims that any naturalistic thesis must make clear its conception of nature and supernature otherwise it will be impossible to identify what makes a claim specifically natural. However, he argues that, given the open-ended nature of contemporary science, naturalism is unable to provide any sufficient criterion for distinguishing nature from supernature, and therefore what is legitimate from what is illegitimate:

^{...[}N]aturalists respect the natural sciences as absolutely authoritative with respect to what there is and what the world is like. Naturalism demands that we follow science

wherever it leads with respect to such issues. This much is uncontroversial. Indeed, it is affirmed most emphatically by those typically characterized as metaphysical naturalists. It is furthermore uncontroversial among naturalists that science will lead somewhere—that it will in fact tell us something about what the world is like. But then naturalism, whatever it is, must be compatible with anything science might tell us about nature or supernature. Thus, no version of naturalism can include any substantive thesis about the nature of nature or supernature.⁴²

This seems a bit rash. It does not seem that naturalism can tell us *nothing* of the nature of what would count as supernatural. It would merely say that knowledge is confined to science, and anything claiming to be extra-scientific is illegitimate. Since the claim for something to be "supernature" is typically a claim implying something extra-scientific, the naturalist has a criterion by which to disregard it.

But this is not exactly what Rea is saying. He says that naturalism must be compatible with anything science might tell us about supernature. If, say, the theory of intelligent design, increasingly bears out in scientific evidence, then what is supernature—in this case, a nonphysical causal agent, however that might be understood⁴³—would not be extra-scientific at all, but would fall into the purview of the best available science. This would mean that 'supernature' is not identical to 'extra-scientific.' Yet, if the naturalist cannot distinguish between nature and supernature purely by the methods of the natural sciences, then naturalism cannot claim that a strict adherence to the natural sciences prevents acceptance of supernatural entities or causation.

The naturalist might object that this is merely a problem of clarifying our terms. It is typically conceded that anything that is lent support by scientific theories is, by

⁴² Rea, p. 55, emphasis his.

⁴³ Albert Borgmann of the University of Montana has suggested that a non-physical being could not 'cause' the universe, on the current scientific understanding of causation. He says that if there is design in the world we would have to use a different term. He suggests 'donation.' He also, however, indicates that design could not be supported by a scientific theory and must be revealed, if knowable at all. In conversation.

definition, natural, since science is typically understood as the study of the natural world. It is what we mean when we use the term 'natural sciences.' But this is just a stipulation of terms. The naturalist could point to everything currently accepted as science and say, "Okay, for now, everything that is not "this" is 'supernatural.'" But this is vague and not very helpful in the long run. Since empirical research is intentionally open-ended, and since the naturalist cannot stipulate physicalism *a priori*, then it seems that Rea is generally correct: naturalism cannot distinguish between nature and supernature. But is this relevant to naturalism's consistency?

We have to remember that naturalists do not consider legitimate anything that can reasonably be claimed to be "supernatural," therefore they may define the limits of knowledge as 'science,' then claim that what is outside of this is not necessarily 'supernaturalistic,' but 'unscientific,' or just meaningless. They do not need a criterion for what would count as supernatural, but merely one that identifies when a claim is scientific, as opposed to pseudo-scientific. There are many pseudo-scientific claims that might become scientific with the relevant data, but which are not deemed supernatural, such as extra-terrestrial life. We would not say that the claim to an encounter with an extraterrestrial was meaningless, given its possible verifiability, but we would say that, so far, all such accounts have proven unscientific or just false. So, given the fact that many scientists still do not accept intelligent design, the naturalist is within his rights to call science 'naturalistic' as opposed to 'supernaturalistic.' But if the evidence does bear out, the naturalist should not have to change much aside from terminology, since adherence to scientific methods would still be worthy of adherence. The problem will be that naturalism is then reduced to identity with the methods of science and then lacks any

35

normative force as analytic thesis. This is because science would then have led to the inclusion of an entity, or at least a set of properties, that genuinely comes into conflict with the account of the universe the naturalist is intent upon preserving.

So even if we grant Rea's argument—that naturalism cannot provide a sufficient account of the supernatural—we cannot really hold this as a standard for a position to count as naturalistic. Since physicalism and causal closure principles are the relevant defense against supernaturalism for the naturalist, these are the positions that would have to define the relevant elements that count against supernaturalism. But it seems reasonable to demand that, if you are going to hold physicalism, you need to provide a criterion for what counts as physical, and if you are going to hold the causal closure of the universe, you need to determine what would count as a violation of the laws of nature. But these seem like relatively simple criteria that would fulfill the major assumptions of naturalism without requiring anything so robust as Rea's demand, that is, defining what would count as a positive instance of the supernatural. The naturalist may have to cross that bridge in the future, but for now he is out of the water.

Rea, however, is concerned to denote what counts as supernaturalism as a concept. He says that, whereas for the naturalist adherence to the natural sciences is the only properly basic assumption, the supernaturalist position includes, in addition to the natural sciences, an adherence to religious experience as properly basic. The point here is the introduction of a method of obtaining knowledge that stands outside the traditional scientific methods, and is therefore characterized by the method that is added, namely some sort of divine revelation.⁴⁴

⁴⁴ Rea's concepts of 'divine revelation' and 'religious experience' do not imply something as fantastical as they might first sound. Though he does not specify, I take it that he has something more subtle in mind,

In the history of the philosophy of science, a criterion for what counts as 'experience' or 'legitimate knowledge' for use in scientific theory is nearly impossible to prescribe. So, if something like religious experience might be borne out by the best scientific reasoning methods, (e.g., multiple attestation, argument to the best explanation, historical evidence, reliable testimony, observable change in a person), it is questionable whether it should be proscribed from relevant scientific data prior to investigation. The religious experience denoted by religious epistemologists such as Rea and Alvin Plantinga is subject to defeaters, just as with any belief acquired in a warranted manner. Any process of reasoning or evidence can provide defeaters for a belief. This means that scientific reasoning can act as a defeater for a religious experience, and therefore that religious experience is subject to the process of science. If the content of the religious experience is not self-contradictory and contemporary findings of science do not constitute a defeater, then the believer remains warranted in his belief. In this case the naturalist cannot act in a way contrary to the methods of science and therefore, cannot proscribe a religious belief on the basis of science prior to applying the methods of science.

Traditionally there have been some forms of experience that have been supposed as 'unscientific' or *a priori*. Supposedly any theory that advocates a method of knowledge outside the empirical tools of the sciences counts as anti-naturalistic. Such theories have included, but are not exclusive to, (a) instrumentalism, which claims that science is merely one of many different ways to obtain truth about the world, the others including poetry, literature, and religion, (b) rationalism, which holds that the mind is

such as the introduction of mental content or a certain type of intellectual understanding provided by a divine being that gives rise to holistic assent to that being's existence and aspects of its essence.

capable of producing knowledge without any appeal to experience, and (c) phenomenology, which holds that, *via* some perception that is not sensory, the mind is presented with truth about some aspect of the world. But according to a process of good reasoning, to be defined in the next section and which the majority of the theoretical sciences accept, if any of these passes the test, then they can be useful in scientific theorizing.

2.3 Necessary Distinction

Here I must call attention to a distinction that will be crucial to my argument. The distinction is between *experimental methods and data* and *scientific reasoning*. Experimental methods and data involve the traditional scientific method with controls and variables and test conditions, so that any scientist may recreate a scenario to prove or disprove a result. As the type of organisms and test subjects under analysis become more complex, experimental conditions are not always possible. For instance, there is no lab experiment that can recreate the conditions surrounding the Big Bang. The same goes for gravity. In these cases we apply scientific reasoning that has proven useful to make relevant determinations. These include the ones I just mentioned—multiple attestation, argument to the best explanation, historical evidence, reliable testimony—and also simplicity. These methods may have been chosen pragmatically, but their success rate is worthy of attention.

With this said, we must make this distinction when evaluating the claims of naturalism. Since branches of science report both the results of experiment and reasoning, the naturalist is appealing to both in her adherence to science. And whereas the experimental method and data say absolutely nothing concerning what exists outside of science, scientific reasoning may well enter that domain. To use a previous example, it is

38

the claim of intelligent design theorists to show by scientific reasoning that there is good reason to accept the existence of a non-physical creator of the universe. The naturalist, on the other hand, thinks she has the same amount of warrant, for the same reasons and facts, that such a creator does not exist.

Since this is the nature of contemporary science, we may not argue against naturalism in the following way: since scientific data refer, by definition, to physical entities, and anything beyond nature is, by definition, non-physical, then science is incompetent to tell us that everything that exists is 'physical' in some loose sense, or that the only things that can be known are known by cause and effect relations among physical things, therefore, naturalism is, strictly speaking false. We would be arguing that naturalism claims something that could not possibly be proven. But this would be a straw man. Contemporary science allows for postulates of good reason to make claims beyond what is immediately observable. This is true from cosmological physics all the way down to particle physics. We must argue to the best explanation, based upon what we already know physically. C. S. Lewis offers an example of how facts and reasoning work together in theories:

Supposing you had before you a manuscript of some great work, either a symphony or a novel. There then comes to you a person, saying, 'Here is a new bit of the manuscript I found; it is the central passage of that symphony, or the central chapter of that novel. The text is incomplete without it. I have got the missing passage which is really the centre of the whole work.' The only thing you could do would be to put this new piece of the manuscript in that central position, and then see how it reacted on the whole of the rest of the work. If it constantly brought out new meanings from the whole rest of the work, if it made you notice things in the rest of the work which you had not noticed before, then I think you would decide that it was authentic. On the other hand, if it failed to do that, then, however attractive it was in itself, you would reject it.⁴⁵

On this account, the naturalist and the scientist who holds intelligent design are on the same page. Both appeal to empirical data, both apply valid reasoning, yet both come

⁴⁵ C. S. Lewis, "The Grand Miracle," God in the Dock (Grand Rapids, MI: Wm. B. Eerdmans, 1970) p. 81.

to different conclusions. Without further data the answers are to be borne out in argument. Obviously any philosophy based on science that makes universal claims concerning data is easily relinquished in favor of a milder, 'best-available-contingentscience' posture. But a 'reasonable' naturalism seems to be the right sort of aim for a project that purports to follow science whole-heartedly.

2.4: Implications of Naturalism

Since naturalism purports to follow science in its findings, implications, and reasoning, it might seem that naturalism is merely reducible to a specific philosophy of science. And in general, naturalism has been confused with at least three philosophies of science: empiricism, physicalism, and pragmatism. In addition, because of many naturalists' tendencies to reject theism as a rational or useful position, it may seem that naturalism is merely disguised atheism. In what follows I will indicate how naturalism differs from these four strict assumptions that typically accompany naturalistic theories.

Some might think it obvious that naturalism could not be identical with any purportedly analytic philosophical doctrine, since an analytic position usually involves justification of a conceptual type that differs significantly from an empirical type. Naturalists tend to reject affiliation with any such justification and remain solely within the confines of scientific method and reasoning. The confusion comes when the naturalist holds that science warrants certain universal conceptual doctrines based upon successful local science. For instance, since science has always progressed *via* empirical methods and sound reasoning, and since these methods have proven themselves successful time after time, the naturalist may think that successful science implies empiricism—the doctrine that all knowledge is based in a form of experience that is clearly identifiable in experiment. But apart from this, naturalists must hold as legitimate all that science holds legitimate. Since science presupposes that experience is a reliable method of investigating the world, and more than that, since it has proven this, then the naturalist is committed to the reliability of experience in whatever way science characterizes experience.

The naturalist does not attempt a reduction or reconstruction of language by which we can identify relevantly empirical data or concepts, but follows science in whatever it finds rational or useful. As with empiricism, the naturalist may find an affinity for physicalism or pragmatism as the implication of a scientific method or set of findings. But the naturalist cannot hold these philosophies analytically, since, if science moves in a different direction or discovers something that refutes these doctrines, the naturalist is committed to science over and above any philosophy that might be inferred from it at a particular place in history. The following discussion will, I hope, clear up misunderstandings concerning the relationship of naturalism to these philosophies, as well as realism and atheism, and thereby provide the groundwork for an adequate understanding of naturalism and the justification for a consistent naturalistic position.

2.4: Empiricism

2.4.1: Intro

It is important for our purpose in this study to understand why naturalism, while exclusively following empirical science as its epistemic guide, does not reduce to empiricism. This is because naturalism is sometimes identified, or at least confused, with the doctrine of empiricism. In saying that naturalism is irreducible to empiricism I mean simply that naturalism is not in any way logically implied by the various meanings of the term empiricism, or the methods employed to obtain empirical data. And neither does naturalism necessarily imply empiricism, though it may contingently do so at any given time. Despite this, there is good reason to believe that a certain 'moderate empiricism' (to be defined) is implied by adherence to the natural sciences as currently understood, and therefore naturalism. First we need to characterize empiricism in its larger context.

Generally, empiricism is just the normative prescription of sensory data as the primary mode of investigation into reality. Scientists, first and foremost take their cues from the experiential qualities of what is given to the senses as a world. This is not without scrutiny, but it will do as an introduction. Michael Rea and Laurence Bonjour define empiricism as, "...the view that, at most, only analytic truths can be justified a priori."⁴⁶ But just what counts as relevant sensory experience on an empiricist epistemology is controversial. Sterling Lamprecht, in *The Metaphysics of Naturalism*, put it this way:

Negatively, empiricists are, I suppose, all akin: they have common foes and often embark cooperatively in campaigns against a priori judgments and transcendental claims. But positively they often seem pretty much at odds in their basic contentions. Experience, in the well-known phrase of Ralph B. Perry, is a "weasel word."⁴⁷

Until Hume, rationalism dominated the philosophical landscape. Locke, though he continually considered himself an empiricist, can be charged on any number of grounds for reverting back to a rationalist justification for the human ability to know. Though Berkeley also considered himself an empiricist, it is fairly obvious that he was predominantly a rationalist, though, "despite the absence of any very specific pronouncement by him on this issue."⁴⁸ At any rate, Hume's was the first consistent formulation of empiricism:

It is thus not until Hume that we find a major philosopher who clearly repudiates the rationalist capacity for insight into necessary truths pertaining to reality, insisting that a priori justification concerns only "relations of ideas" as opposed to "matters of fact." Superficial impressions to the contrary notwithstanding, Kant...is in fact much closer to a Humean version of empiricism than to rationalism, but, excepting only Mill, clear

⁴⁶ Rea, World Without Design, p. 38; Bonjour, In Defense of Pure Reason, pp. 18-19.

 ⁴⁷ Sterling Lamprecht, *The Metaphysics of Naturalism* (New York: Appleton, Century, Crofts, 1961) p. 35.
⁴⁸ Bonjour, *In Defense of Pure Reason*, p. 17.

examples of empiricism are hard to find in the period after Kant until the advent of positivism in Comte and Mach.⁴⁹

The positivists offered several attempts to define experience precisely, within the scope of empiricism, none of which succeed in reducing all meaningful language to observation sentences or observable events. At that point in history, empiricists were concerned with developing a criterion by which a relevant knowledge-producing experience is theoretically viable. Positivist Gustav Bergmann identified empiricism as follows:

...to be an empiricist means to adopt an 'empiricist criterion of meaning' or 'principle of acquaintance,' i.e., to assert the sufficiency of a class of undefined terms that refer to the sort of thing philosophers call the phenomenally given in contradistinction to, say, physical objects.⁵⁰

Contemporary empiricists take the failure of philosophers to develop an 'empiricist criterion of meaning' in stride and claim that, loosely, all true statements about the world must have, or be derivable from, some directly observable component. This is the position that most naturalists feel is warranted by contemporary science.

Nicholas Wolterstorff describes empiricism as a *type* of view rather than a single view, so that empiricism has several unique formulations. He says that an empiricist of one type may reject empiricism as formulated by another.⁵¹ One fundamental type of empiricism is "concept-empiricism" on which all concepts which can be understood or explicated apply to some experience or are derived from some experience. Another fundamental type of empiricism is "belief-empiricism" on which the rationality or warrant or cognitive significance of a person's beliefs is determined by whether the belief has an experiential component. The empiricism referred to in this project will be closest

7: ⁵¹ Nicholas P. Wolterstorff, "Empiricism," *The Cambridge Dictionary of Philosophy*, 2nd ed. (Cambridge: Cambridge University Press, 1995) pp. 262-63.

⁴⁹ Ibid.

⁵⁰ Bergmann, *The Metaphysics of Logical Positivism* (New York: Longmans, Green, and Co., 1954) pp. 6-7:

to belief-empiricism. But since the requisite condition for the consistency of either position is an adequate understanding of 'experience,' and the explication of 'experience' will serve as the basis of our analysis, the specific distinction need not be continually made.

Contemporary naturalists typically hold the empiricist view that is associated with the later positivists called 'moderate empiricism,' though they do not hold that the position demands a criterion. 'Moderate empiricism' is the belief that there are two sets of basic truths: 'empirical,' which are revealed in some way through our five senses and are contingently true, and 'logical,' which are merely analytic, content-free, tautologies, which are necessarily true. These are the only *a priori* truths acknowledged by naturalists.⁵² There is a third set of basic propositions, sometimes associated with positivism, called 'incorrigible truths,' that involve occurrent beliefs—such as the experience of being presented to 'pinkly' in a room we know is white but which has pink or red lights—that cannot be doubted even though we may have no obviously physical component. These are acknowledged by naturalists as 'true but trivial' since they are ultimately subject to further empirical investigation.

Moderate empiricism may be distinguished from 'radical empiricism,' which holds that all knowledge, including logic is either derived from or subject to empirical certification. Laurence Bonjour claims that radical empiricism is associated with Quine:

From a historical standpoint, moderate empiricism is clearly the main empiricist position on the subject of *a priori* justification; and although full-dress defenses of it have been infrequent of late, it continues, I believe, to be widely albeit somewhat less openly held. The most conspicuous recent position on the general topic of *a priori* justification, however, is a much more extreme version of empiricism. Associated mainly with Quine and his followers, this second and quite distinct version of empiricism, which I will here

⁵² Bonjour, In Defense of Pure Reason, p. 18.

refer to as *radical empiricism*, rather than attempting to give an epistemologically innocuous account of *a priori* justification, denies outright its very existence.⁵³

Whether Quine actually decried *a priori* knowledge as it referred to logical truths is questionable. But the basic distinction remains. We might define someone like Mill, who attempted an empirical derivation of logic, as a radical empiricist. But we will consider a moderate empiricist one who accepts the content-less nature of logic as *a priori*, and who, along with logic, accepts the content supplied by some form of experience as basic for scientific theory.

Lamprecht indicates that empiricism has been approached in one of two ways: (1) as a theory of things, or (2) as a method of inquiry.⁵⁴ Whether empiricism is conceived as ontologically or epistemologically, is not our concern at present. Later on, in our discussion of physicalism, the issue of the subject matter—ontology—of empiricism will be addressed. Also later, in our discussion of naturalism's justification, the empirical method of inquiry—epistemology—will be addressed. Though theoretically we may separate the ontological question from the epistemological, our concern here is more meta-epistemological; that is, it is concerned with the scope of what science can tell us empirically.

Epistemologically, empiricism is a justification for the methods of science to the effect that science provides an adequate, ever more reliable understanding of what is empirically available. Ontologically, empiricism is used to justify the belief that all legitimately posited entities are experientially available, in either a narrow or broad sense. Empiricism attempts to show that something within the history of science leads to the

⁵³ Bonjour, In Defense of Pure Reason, p. 19.

⁵⁴ "Sometimes empiricism has been primarily an appeal to concrete things, to what I shall call one's "subject-matter," as that which has final authority over one's thinking; and sometimes it has been primarily an appeal to a certain method, to a favored procedure, as that which will lead most happily to human betterment." Lamprecht, *Metaphysics of Naturalism*, pp. 35-36

conclusion that only a certain type of entity will ever actually prove to be scientific, namely that which has the capacity to present itself to the senses, with all the provisos concerning the states our senses would need to be in to detect them. I am concerned here to show that naturalism is not reducible to empiricism in the sense that naturalism places no restriction on what things or what kind of things science is supposed to discover or not supposed to discover. Naturalism does not place any such restrictions because science itself places no such restrictions.

The scope of empiricism is insufficient—particularly it is too narrow—to identify with the naturalistic posture toward the nature of knowledge gained by the process of science. Empiricism is not identical to naturalism's claim that the methods of scientific inquiry are the only legitimate means of knowing. Empiricism is intended as a defense against metaphysical speculation, and it attempts to do so by delimiting the scope of experience to those that are detectable by scientific methods. Empiricism attempts to determine, prior to complete investigation, which entities, methods, or processes science is or is not able to discover. Marc Alspector-Kelly highlights this element of empiricism in his essay, "Empiricism Naturalized."⁵⁵ In the essay he intends to show the dependence of naturalism and empiricism on one another. He says that both face insufferable difficulties alone, but that, together they form a consistent and useful method of approaching philosophical issues. He writes:

...whatever metaphysics is, it is, the empiricist contends, objectionable. For it transcends the limits of experience that, the empiricist claims, cannot coherently be violated. While empiricism's critical function is not its sole raison d'etre, it is certainly a fundamental one. Recognition of the limits of experience delivers the empiricist a weapon against the pretensions of metaphysical philosophy.⁵⁶

⁵⁵ Marc Alspector-Kelley, "Empiricism Naturalized," http://homepages.wmich.edu/~malspect/Empiricism%20Naturalized.htm.

⁵⁶ Ibid., p. 2.

Unlike empiricism, naturalism does not attempt to delimit the scope of 'experience' especially because contemporary science posits entities incompatible with traditional empiricist claims. It is precisely because it is logically possible for science to make non-empirical claims that naturalism is irreducible to empiricism. Whereas naturalism may provide, in its adherence to the natural sciences, the context for a more reasonable definition of empiricism, naturalism does not adhere to any thesis concerning the nature of scientific findings prior to scientific scrutiny.

2.4.2: Naturalism's Irreducibility to Empiricism

It seems strange to consider splitting up science from empiricism, since it is typically considered a truism that science traditionally begins and ends with empirical data. It begins with data taken in through various methods, not the least of which is direct sensory experience. After different scientific reasoning processes have drawn out the implications of some relevant experience, the end result is supposedly some reliable fact about our world. Of course, our concern is with the universal implications of such a conceptual system. Can we reasonably say that science is restricted to 'empirical' findings? We must first define our use of 'empirical,' and then show in what sense all scientific findings are compatible with it. If we reject a priori theorizing it seems that we must not say that it necessarily is bounded by empiricism. But it seems counterintuitive to think that a method of inquiry could discover something outside the scope of science's intrinsic investigatory power. For example, let us say that some instrument only possesses the capability of detecting blue objects. How could it possibly make a claim concerning objects of other colors? How could a theory of color based on this instrument lend support to the fact that object of other colors exist? Could it claim conclusively that yellow objects do not exist?

47

If I used this machine for investigating the world we might say that I am warranted in only believing in blue objects. That is, of course, if no other color-object-detecting instruments existed at the time. Empiricism treats science like a blue-object detector, and this is not at all the way contemporary scientific theories work. In science, we say that certain evidence "points strongly toward" a certain hypothesis, or "lends probabilistic support to" a certain conclusion that may consist of entities or processes that are not empirically detectable, though the effect they are attempting to describe or explain is usually available to direct sensory experience. Since this is the case, we cannot restrict science to the pre-conceived boundaries of a criterion for what would count as 'empirical,' thereby reducing science to, or justifying it by, empiricism of some sort. Consider an argument by Michael Rea:

...we must be careful about identifying naturalism with empiricism. Consider what would happen if a well-confirmed scientific theory lent strong support to the view that substantive (nonanalytic) truths can be known a priori. To suppose a priori that there could be no such theory is surely unacceptable from a naturalistic point of view. After all, from that point of view, the role of philosophy is to *follow* science, not to impose a priori constraints upon its results. So it looks like we must admit that science could, in principle, discover empiricism to be false. If it did, the proper naturalistic response would be to reject naturalism.⁵⁷

Notice that he says, "if" a theory "lent strong support to….." The argument itself proves the plausibility of a non-empiricist approach, because science allows for the possibility that data could lend such support. The empiricist could not permit that option. In allowing that science might lend such support, Rea is being consistent with contemporary branches of science that do not, in their methodology, restrict possibilities. It might be the case that quantum theory lends strong support the fact that our universe is actually made up of multiple dimensions and that something called 'strings' are the most basic physical particles. Would this be a non-empiricist claim? It seems difficult to see

⁵⁷ Rea, World Without Design, p. 39, emphasis his.

how, even given that these dimensions and strings are not empirically observable. The scientist is actually making inferences *from* empirical models already in place and *to* empirically available data. But inferences that follow from empirical data are still broadly empirical, at least they are intended to be in contemporary science.

But, of course Rea is not claiming that string theory would be unempirical, except perhaps in a strict sense that very few philosophers continue to hold. He is asking us to consider the possibility that a theory of, say, intuitionism, being supported by scientific theory. Indeed, it seems intuition has been controversial in science for just that reason. Russell and Frege, though not scientists, argued, against Poincaré and Hilbert respectively, that intuition is a necessary component for meaning in the axioms of geometry.⁵⁸ The result of this dispute, however, was quite ambiguous, since it did not really seem to matter who was correct. Geometry progressed in spite of the issue. The empiricist, however, could not accept the ambiguity of this conclusion, since for him, non-empirical knowledge is not merely untrue as of yet, but a physical impossibility of the scientific method, since we have no conception of what such knowledge would be. He would say with the positivists, that, since no empirical result follows, such statements are meaningless.⁵⁹ Despite naturalism's rootedness in the scientific conception of the world as conceived by the positivists, naturalists do not concede a verificationist posture or any other philosophy prior to scientific investigation. It seems, then, that empiricism could be untenable and naturalism true.

There is a counterclaim, however, made explicit by Laurence Bonjour in his, In Defense of Pure Reason:

⁵⁸ J. Alberto Coffa, *The Semantic Tradition: From Kant to Carnap to the Vienna Station* (Cambridge: Cambridge University Press, 1992) pp. 113-140.

⁵⁹ Cf., A. J. Ayer, Language, Truth, and Logic (New York: Dover Publications, 1952).

...if it should turn out (surprisingly) that there is genuine knowledge that results from parapsychological or extrasensory capacities such as telepathy and clairvoyance, it seems that its justification should also count as empirical, and not a priori, from the standpoint of the traditional distinction, whether or not it involves any sort of sensation or sensuous imagery.⁶⁰

The 'traditional distinction' to which Bonjour refers is between moderate empiricism and radical empiricism. According to Bonjour, the classical understanding of the term 'empirical' would not be undercut by any discovery or evidence in favor of what are typically considered *a priori* ways of knowing. They would become scientific in a non-trivial sense, since they would then be testable thereby becoming available to other minds, and cease to be called '*a priori*.'

It seems that contemporary science could accommodate such a system, since, just because we might not know how a formerly *a priori* method of knowing happens, or occurs, or is caused, or works, its predictive ability and explanatory usefulness would make it 'scientific' in a non-trivial contemporary sense. The 'experience' itself would then be empirical—though not completely comprehensible—and therefore not *a priori*. On Bonjour's understanding, it seems that science could not, as Rea claims, "discover empiricism to be false." Bonjour is not sympathetic to empiricism, but he raises an important problem for anyone who wishes to retain a rationalist perspective.

I, however, agree with Rea that the problem actually falls on the shoulders of the empiricist rather than the rationalist. Since the empiricist, if she is concerned to make her empiricism normative, is concerned to compellingly denote what counts as legitimate knowledge, against metaphysical claims, and to say that only that which is qualifiedly empirical counts, she must provide a criterion of what evidence counts as 'empirical.' The rationalist would claim that telepathy, if true, provides a mode of inquiry that is *as*

⁶⁰ Bonjour, In Defense of Pure Reason, p. 8.

legitimate as science. The empiricist can claim that, if telepathy is found true *via* some contemporary scientific investigation, it *is* a scientific method of inquiry, and therefore legitimate. But either way, the conclusion lands in the rationalists' favor, since the empiricist cannot rule out, *a priori*, that telepathy is impossibly detectable by science, and can provide no criterion to the effect that it is impossible or illegitimate before she actually investigates. The pragmatic scientific efficacy of something like telepathy would not support any claims about the nature of telepathy itself, except perhaps that it functions in a law-like manner.

The question goes deeper, in that the issue is one of the broader concept of "experience," and not the more restricted concept of "empirical." Does one obtain knowledge *via* her direct sensory apparatus, or does she obtain knowledge by 'experience,' broadly construed? Defining these concepts helps to clear up some of the problem. Bonjour suggests that 'experience' should be understood as:

(a) being a causally conditioned response to particular, contingent features of the world, and

(b) yielding doxastic states that have as their content putative information concerning certain particular, contingent features of the actual world as contrasted with other possible worlds. 61

This clarification allows that knowledge obtained perceptually may not involve the sensory apparatus *per se*, but that the knowledge gleaned would be *a posteriori*, in that it was a result of causal process and deals with purely contingent subject matter. In the same way, introspection, memory, and kinesthesia would become instances of epistemic experience in this broad sense, while having nothing to do with sensory apparatus in the narrow sense. This means that telepathy was not *a priori* all along and that the relevant notion of empirical retains its force, even allowing the possibility of

⁶¹ Bonjour, In Defense of Pure Reason, p. 8.

positivist convictions concerning meanings. "Telepathy is true," would be a meaningful proposition, although false. Bonjour claims that mathematics does not fall into this category, because, even though it involves mental processes, it is concerned with universal, rather than contingent, truths, and therefore remains an *a priori* subject.

But again, the question gets all muddled, since on Bonjour's account, prophecy would count as possibly empirical, since it deals with contingent truths, that may or may not come to pass, and because of this, the claims are open to empirical scrutiny. But religious experience would not count since a necessary Being's revelation of himself would constitute knowledge of a *universal* truth. Though the experience itself would be *a posteriori*, in the sense that the prophet somehow 'experienced' the message, the noncausal (in the physical sense of causation) relation of immaterial being to material being would be impossible to detect or explain by science and therefore *a priori*. If the prophet receives a message entailing both that 'a necessary Being exists' and that 'a certain event will come to pass,' then presumably he has been presented with an *a posteriori* and an *a priori* truth simultaneously in an *a posteriori* experience. But this doesn't even make sense on a purely scientific worldview.

What we need is a criterion for what would constitute an empirical claim. But no one has yet been able to adequately define of what this would consist. Any criterion that restricts knowledge to sensory experience leaves out memory completely, and is too narrow. Any criterion that allows for the possibility of memory also allows the possibility of religious experience, and is too broad for most empiricists. Therefore, sensory experience alone cannot determine what counts as scientific, since it does not have the capacity to determine anything outside its five-fold scope, just as our blue-object

52

detector. But science could feasibly detect, or at least indicate through valid scientific reasoning, the existence of something outside of sensory experience, which would nonetheless constitute 'experience' in some broadly scientific sense but which would still not be considered significantly *a priori*.

Rea, however, does not say that science might 'detect' or 'indicate' that a priori truths exist, in a way that would lead us to think of an experiment, but merely that a scientific theory may have to concede at some level, giving "strong support to" the fact that a priori truths exist. This goes all the distance he needs to show that empiricism could be false, and that the naturalist has to live with that fact. The point here is not to destroy empiricism, but only to show that empiricism and naturalism are not tied together in any logical sense, such that, if it were the case that empiricism were, somehow, proven false, that the naturalist would not have to give up her dependence on science or her naturalism. As far as Rea's argument goes, I think he is correct. But the conclusion does not lead to any scathing critique of empiricism, nor to any substantive suggestion as to what it might be to which science could lend support that would not constitute experience in any reasonable sense and which would still supply some sort of intelligible content. But it does seem clear that empiricism cannot be held normatively, in the sense of proscribing something from the scope of science prior to the completion of the scientific project.

Rea's argument holds out a logical possibility that the naturalist cannot deny if she is following any version of contemporary science. But there seem to be no consequences for accepting this logical possibility either. This might lead us to question

53

why the naturalist would hold (if she did) the rejection of metaphysics as a doctrine.⁶² If empiricism did turn out to be false on a scientific worldview, then anyone who held 'empiricism' as a *doctrine* would obviously have a problem, since empirical confirmation is the bread and butter of his theory. But this is rather trivial given our previous discussion. And what about the naturalist? It is unclear that anyone who traditionally held a strong commitment to science as a contingent and falsifiable research program ever held empiricism as a universal doctrine. The idea that scientific research is broadly empirical has historically been more descriptive than normative at any given stage of scientific research, with the criteria of what was reasonably 'empirical' broadening to some extent at each stage. Normativity became an issue with certain 'epistemologies' of science, but the naturalist does not seek an epistemological justification for science; naturalism accepts science as basic, given its success.

It seems that, despite concerns about metaphysical statements and the eschewal of *a priori* knowledge claims, the central tenet of most versions of naturalism, centers on following science to whatever conclusions at which it arrives. *If*, through some interesting turn of events, science ever came to conclude that empiricism was false, then the naturalist would have to alter her stance on *a priori* knowledge, but would not have to give up her belief in the effectiveness of science, just the claim that science is an exclusively empirical discipline.

⁶² The naturalist may say she is *warranted* in rejecting metaphysics because she either thinks that no evidence is currently available that would "lend support to" any claim of *a priori* knowledge, or she has disavowed it as genuine evidence. (That is, she may not take the particular evidence for such a possibility acceptable as a form of evidence in her doxastic system.) She may claim that if any such evidence did indeed present itself, she would follow it wholeheartedly, and thus alter her conception of naturalism, which seems detrimental to the concept itself, or give it up completely.

If it turned out that empiricism was false, and that this was indicated by some scientific investigation, then, though naturalism would not have to be rejected, it would certainly suffer certain consequences. The most severe is that naturalism would not be offering any substantial perspective concerning inquiry. If there are other modes of inquiry, aside from empiricism, that also hold science to be effective, and which science warrants, then the naturalist, who holds that science is a particularly privileged method of knowing (since it was through science that these other methods were warranted, but not discovered), then we would merely say he was being naïve, or at least overly nostalgic. In this case, the naturalist would not be offering anything philosophically significant. He would merely be pointing out the efficacy of the scientific method, with which even those who held the other possibly warranted method of inquiry probably agreed anyway. So, even though naturalism is not tied logically to empiricism and therefore does not have to hold the doctrine as a universal truth (since it seems to be without empirical justification anyway), if science shows empiricism to be false, then naturalism ceases to be naturalism. Something has proven epistemically reliable apart from science, thereby undercutting the naturalist's belief in the sole authority of science.

Again, these are pretty trivial concerns. But because of this, naturalism cannot be reduced to empiricism. If empiricism is false, it does mean the obliteration of naturalism, though it is not clear, at this point, how empirical data would show that something other than empirical data was efficacious. This would have to be a process of scientific reasoning. And since the argument is merely a logical possibility, any competent naturalist may still say that she is warranted in holding the truth of empiricism until it is proven otherwise. And we have to agree.

55

The only argument that would tell against such warrant is a proof of the irrationality of empiricism itself. This is a task to which I am not equal. This obviously does not affect its epistemic warrant, but it should make us a little uneasy if we conjoin the thought that 'science tells us something about reality' with that of 'science is all that is ultimately justified empirically.' For the most part I agree with C. S. Lewis when he wrote:

It is clear that everything we know, beyond our own immediate sensations, is inferred from those sensations. I do not mean that we begin as children, by regarding our sensations as 'evidence' and thence arguing consciously to the existence of space, matter, and other people. I mean that if, after we are old enough to understand the question, our confidence in the existence of anything else (say, the solar system or the Spanish Armada) is challenged, our argument in defense of it will have to take the form of inference from our immediate sensations. Put in its most general form the inference would run, 'Since I am presented with colours, sounds, shapes, pleasures and pains which I cannot perfectly predict or control, and since the more I investigate them the more regular their behavior appears, therefore there must exist something other than myself and it must be systematic.' Inside this very general inference, all sorts of special trains of inference lead us to more detailed conclusions.⁶³

I take it that this is the intuition that inspires adherence to science and its manifest

success. The leap to naturalism from here is obvious. The problem naturalism will face in

chapter four is that of its normative claim that the only legitimate form of knowledge is

'scientific' rather than broadly 'experiential,' since science presupposes the truth of the

latter. This is because of another insight from Lewis a few sentences later, based on the

previous quote:

All possible knowledge, then, depends on the validity of reasoning. If the feeling of certainty which we express by words like *must be* and *therefore* and *since* is a real perception of how things outside our own minds really 'must' be, well and good. But if this certainty is merely a feeling *in* our own minds and not a genuine insight into realities beyond them—if it merely represents the way our minds happen to work—then we can have no knowledge. Unless human reasoning is valid no science can be true. It follows that no account of the universe can be true unless that account leaves it possible for our thinking to be a real insight.⁶⁴

⁶³ C. S. Lewis, *Miracles* (New York: Harper Collins, 1947) pp. 20-21.

⁶⁴ Ibid., p. 21, emphasis his.

The issue appears to be the classical one about whether thought alone can provide content. But in fact it deviates from that broad question to focus specifically on whether we can make correct judgments concerning the experiences through which we encounter reality and whether science can determine the answer. This is an issue that I will address in section 2.7 on realism.

2.5: Pragmatism

2.5.1: Intro

Since naturalism follows the success of science for indication of success in theorizing, it might be tempting to view naturalism's commitment to science pragmatically, even reducing naturalism to pragmatism. Given John Dewey's attempt to promulgate naturalism through a pragmatic rendering of warranted assertability, it may seem a short jump. Pragmatism inevitably involves some sort of conventionalist view of reality. Conventionalism in philosophy of science is the doctrine that theorists design consistent models, constructions, that we apply to reality and from which we may derive useful knowledge and/or practices. These models can be based upon social practices and institutional values.⁶⁵ Generally, and admittedly simplistically, pragmatic methods are designed to find what is useful and not what is true, per se. The findings may actually be true, but pragmatism does not make room for justified views concerning whether they are true, so that we cannot determine the nature of the physical world outside of its usefulness for some indicated goal. Since many contemporary naturalists, having departed from a Deweyan formulation, reject a pragmatic rendering of science,⁶⁶ pragmatism is inconsistent with naturalism as I am characterizing it.

⁶⁵ A well-known contemporary proponent of conventionalism in science is Bas C. Van Fraassen who puts forth what he calls "constructive empiricism." Cf. Bas C. Van Fraassen, *The Scientific Image* (Oxford: Clarendon Oxford Press, 1980).

⁶⁶ For example, Philip Kitcher, Alexander Rosenberg, Jerry Fodor, and Michael Dummet.

It is not that pragmatists decry 'truth,' they just want to distinguish their version of 'truth' from that of the traditional discussion concerning what is *meant* by 'agreement with reality.' For example, William James agrees that the pragmatist conception of truth is 'agreement with reality' but defines the relevant scope of reality as that which is given in sensory perception, because that is all that we have for which to make *use* in daily life. He asks, "What, in short, is the [traditional] truth's cash-value in experiential terms?"⁶⁷

Our true ideas of sensible things do indeed copy them. Shut your eyes and think of yonder clock on the wall, and you get just such a true picture or copy of its dial. But your idea of its 'works' (unless you are a clock-maker) is much less of a copy, yet it passes muster, for it in no way clashes with the reality.⁶⁸

If we continue following James, the pragmatic criteria for "truth" is determined as follows: "*True ideas are those that we can assimilate, validate, corroborate, and verify. False ideas are those that we can not.*"⁶⁹ This notion of truth seems to reduce to reliabilism rather than truth, but we will discuss the distinction between reliabilism and truth in section 2.7 on realism.

Pragmatism, as a movement, developed as a specifically American project. It was first formulated by C. S. Peirce in the early 1870s in Cambridge, MA, and further developed in the work of other American philosophers such as William James, John Dewey, and Jane Addams. Pragmatism holds that knowledge is purely instrumental. Charlene Seigfried explains:

Concepts are habits of belief or rules of action. Truth cannot be determined solely by epistemological criteria because the adequacy of these criteria cannot be determined apart from the goals sought and values instantiated. ... According to pragmatic theories of truth, truths are beliefs that are confirmed in the course of experience and are therefore fallible, subject to further revision. True beliefs for Peirce represent real objects as successively confirmed until they converge on a final determination; for James, leadings that are worthwhile; and according to Dewey's theory of inquiry, the

⁶⁷ William James, *Pragmatism*, p. 88.

⁶⁸ Ibid., p. 87.

⁶⁹ Ibid., p. 88.

transformation of an indeterminate situation into a determinate one that leads to a warranted assertion. 70

Most naturalists are realists and therefore hold to truth as correspondence with reality, rather than coherence among sensations. But even with the qualification 'correspondence' there is ambiguity. If, as we will see later, arguments for reliability of cognitive faculties that can be deduced from evolutionary theory indicate some correspondence, the type of correspondence indicated may prove too narrow for determinations about reality as a whole, or the scope of the truth-value present in the organism's cognitive mechanism. The methods of empirical science seek answers to the way reality is; they want to know the 'truth' of the matter. Therefore, even though one may choose empiricism on pragmatic grounds, the "usefulness" of the tool must be found adequate for determining what constitutes reality within the scope of an investigation, which translates to success. The naturalist desires to go beyond the scope of any specific scientific discipline and to make claims concerning the nature of reality as a whole, or all of science as a whole. So, while certain aspects of scientific theory may be chosen pragmatically, it makes little sense to claim that naturalism is merely pragmatic with regard to scientific findings.

2.5.2: Naturalism Irreducible to Pragmatism

Alex Rosenberg explains the point of departure for naturalism and pragmatism:

To appeal to the practical, technological, applied success of science might solve the naturalist's justificatory problem. But the result would not be naturalism. Science does in fact have a magnificent track record of technological application with practical, pragmatic success. But why should this provide a justification for its claims to constitute knowledge or its methods to count as epistemology? It does so only if we erect a prior first philosophy. Call it pragmatism, after the early twentieth-century American philosophers—William James, C. S. Peirce and John Dewey—who explicitly adopted this view. This philosophy may have much to recommend it, but it is not naturalism, for it begins with a philosophical commitment prior to science, and may have to surrender those parts of science incompatible with it.⁷¹

⁷⁰ Charlene Seigfried, "Pragmatism," in *The Cambridge Dictionary of Philosophy*, 2nd ed., p. 730.

⁷¹ Rosenberg, Philosophy of Science, p. 155.

Rosenberg identifies the nature of pragmatism as a philosophical position that is independent of science to the extent that science may disagree with a pragmatic finding depending upon the pre-set goal of the pragmatic project, and so the pragmatist would have to depart with science. Since this posture is unthinkable for the naturalist, it cannot be a tenet of naturalism. Pragmatism's status as a first philosophy would deter any consistent naturalist from adhering to it, though the methods of the naturalist and the pragmatist may be very similar. In addition, the naturalist may concede the limits of empiricism as an analytic thesis, and conclude with Dewey and James that pragmatism "is merely empiricism pushed to its legitimate conclusions."⁷²

My supporting argument here is similar to the previous one concerning empiricism. If naturalism is reducible to pragmatism, then it cannot say anything significantly different than pragmatism. But naturalists do, in fact, make claims different from pragmatists. They claim to be accessing reality and they make claims concerning the nature of reality or science as a whole. Therefore, the naturalist has the additional burden of providing a reason to accept science as providing knowledge about reality broader than any specific scientific discipline.⁷³

As Rosenberg indicates, pragmatism is also a philosophy that is prior to science, a status that naturalists reject. Characterized this way a naturalist could never be a pragmatist. Pragmatism accepts that certain goals are always evident (some epistemic need) and that scientific methodology should follow evidence to a certain conclusion

⁷² Dewey, "The Development of American Pragmatism," p. 7.

⁷³ Here I am merely referring back to naturalism's desire for a unified ontology based on scientific findings. The naturalist must be able to point out how branches of science individually or together indicate something about reality as a whole. Dallas Willard writes concerning the branches of science, "They never even attempt to determine what it is to exist or what existence is, and cannot by the nature of their content provide an exhaustive list of what ultimate sorts of things there are," "Knowledge and Naturalism," in *Naturalism: A Critical Analysis*, p. 28.

adequate to the need; epistemic success is determined by conformity to these goals. It is these goals that make pragmatism a prior philosophy.

But pragmatism may not need to be characterized as a prior philosophy. The pragmatist may, like the naturalist, allow that science justifies itself and presents us with the problems, and therefore the goals, to which further experiment should be directed. Therefore, as a program of inquiry, naturalism and pragmatism may be very similar. Michael Rea explains:

The idea [of pragmatism], roughly, is that instead of taking derivability from a priori necessary principles as the distinguishing mark of a good philosophical theory, and instead of looking toward such principles as the foundations for our theories, what we ought to do is to build theories that have practical (empirically detectable) consequences and to evaluate our theories on the basis of their consequences. This sounds very much like the naturalistic approach described above—an approach wherein one abandons the quest for answers to foundational questions and strives to develop theories that will in some way impinge upon primary experience.⁷⁴

Rea's comment here may sound like a description of science. But remember, science does not proscribe *a priori* necessary principles, only theories that attempt to provide an epistemology for science or to base an epistemology on science, do that. In addition, pragmatism is empiricist only to the extent that it conforms to the 'empiricism,' or successful nomenclature, of its day, hence the general qualification 'primary' indicating some relevantly foundational experience, as opposed to sensory experience or a verifiability criterion. Pragmatism involves, however, a normative claim, which is central to both it and naturalism. The pragmatist claims we *should* do what works, and in many cases up till now this is science; the naturalist claims that we *should* follow science above all else because it *is* the most pragmatic of all intellectual disciplines. The sciences do not support either in any specific manner. A newly discovered process may provide no

⁷⁴ Rea, p. 40.

desirable or useful information, yet science values discovery in and for itself as much as it values useful and desirable results.

Pragmatists and naturalists differ concerning the interpretation of results of the scientific program. Both naturalists and pragmatists think that science is self-determining and self-justifying, and want to allow science to follow whatever path the evidence indicates at any given time. But naturalists claim more for the findings of science than do pragmatists. Therefore, a naturalist needs something in addition to pragmatic methods to substantiate the claim that science is the relevant method and that predicting and manipulating the world is the relevant goal. This something must be a consequence of the scientific program. If the scientific program produces this something in way that can be used as a justification for a naturalist epistemology—that is, something else is added that connects what is useful to what is true, can be dismissed as the epistemic guide for the scientific project.

But the problem for pragmatism is intrinsic to its claims. Pragmatism, as an epistemic guide, could determine that its focus should be changed from manipulating and predicting the world to, say, making people feel good about themselves. In this case the pragmatist may find out that science is not the most useful tool, but that say Yoga or pornography is. Or pragmatists may determine that human feeling about the world is more important than manipulating the world, in which case it would also deviate from traditional science. The pragmatist may also come to believe that theoretical physics has 'gone too far' and that string theory is absolutely unuseful to the human enterprise and excise the whole field from relevant "scientific" discourse.

62

The naturalist, on the other hand, has a commitment first and foremost to science, not what it feels is, or defines as, the relevant scope of discourse. There are not predetermined goals for the naturalist. Because naturalism claims more for the findings of science than pragmatists, and because naturalists adhere to science absolutely regardless of what is useful for any specific goal, naturalism is not derivable from or identical with pragmatism.

The idea that naturalism is irreducible to pragmatism also solidifies naturalism as independent of any incompleteness within pragmatism as an epistemology. Since they are theoretically distinct (if for no other reason than in their differing interpretation of scientific findings), even if pragmatism fails as a holistic program, it might still serve well as part of a larger program. Pragmatism is certainly not problematic as part of the methodology of certain other programs. Michael Rea even notes that, "the methods of pragmatism and naturalism are virtually identical."⁷⁵ And here, it would depend upon the larger program as to whether pragmatism was an implication of or for naturalism at any given contingent stage of scientific progress. But even still, naturalism, as a generally realist program is not identical with pragmatism and its claims must be judged on the basis of what is considered good science at the time of the judgment.

2.5.3: Problems with Pragmatism

The problems with pragmatism for a scientific theory mainly center on its noncommittal posture toward the relevance of the findings of scientific methods. It leaves us questioning whether these findings actually explain something significant about the world, or are merely internally consistent systems whose implications for reality are unclear, as on certain geometric models of space. Wilfrid Sellars describes his

⁷⁵ Rea, p. 40.

perspective on pragmatism, as developed through his father's (Roy Wood Sellars) understanding:

I cut my teeth on issues dividing Idealist and Realist, and indeed, the various competing forms of upstart Realism. I saw them at the beginning through my father's eyes, and perhaps for that reason never got into Pragmatism. He regarded it as shifty, ambiguous, and indecisive. One thinks in this connection of Lovejoy's 'thirteen varieties,' though that, my father thought, would make too tidy a picture. ⁷⁶

W. Sellars says just after this, that pragmatism "seemed all method and no results." Since pragmatism makes no pretensions regarding differing ontological theories, it useless as a thesis for the naturalist. Therefore, though the naturalist may claim some pragmatic methods in various places as they agree with scientific methodology, it would not be consistent to claim it in any significant sense.

The consequences of the lack of ontological commitment run mainly along the question of claiming anything beyond immediately given data. Pragmatism leaves the philosopher with a vague instrumentalism without room for rich scientific theories. Normative judgments are out of the question and the theorist has only recourse to statements something like: "I have a system that works for X purposes, and I am sticking with it." The 'X' may be defined as 'systematic accord with experience,' but this presupposes predetermined goals to which the systematic accord is directed. Pragmatism cannot establish these goals alone. They must be directed by questions left over from previous investigation. But there is nothing that specifies that an investigation is specifically scientific. A normative claim must be introduced for that. This is what the naturalist proposes. This is what the naturalist needs for a robust adherence to science, and what the naturalist must justify to establish legitimacy.

2.6: Physicalism and Causal Closure Principles 2.6.1: Intro

⁷⁶ Sellars, Naturalism and Ontology, p. 1.

The axiom that the universe is closed to causal forces other than natural laws is nearly ubiquitous in philosophy of science. The idea, very roughly, is that causal laws necessarily hold (contingent upon a qualified conception of necessity) regardless of what occurs within the system, and that nothing will interfere from outside it. This is not to say that they are necessary in the sense that natural laws necessarily exist and therefore never came into existence, depend on nothing for their coming into existence, and so forth. They could have been otherwise. But, in this initially conditional formula, if nature/physics is complete, then the governing laws that exist do so necessarily and hold unconditionally. Causal closure principles are defined in reaction to claims of nonphysical causation, or causation that interrupts or suspends natural law. This is especially the case in the field of philosophy of mind, where the mind-brain problem is contentious if it is still considered at all. If anything nonphysical can possibly cause a physical event or interact with a physical object, then causal closure principles are not true. The construction of the principles allows for the postulation of causation within the boundary of natural laws, and therefore provides a justification for predictability in theoretical and scientific systems. But there is a connection between them that must be determined in order for causal closure to be true.

The position that holds causal closure principles is typically called physicalism. This is basically the same position traditionally termed 'materialism.' The change in terminology is usually taken to indicate the broadening conception of science to include things like mental events that are not strictly reducible to physical events and are not therefore purely 'material.'77 William Alston offers his take on the development of the

terms' uses:

I will not distinguish between 'physicalism' and 'materialism'. However I must distinguish between more and less extreme forms. The more extreme form holds that nothing exists except what is entitled to be termed 'material' or 'physical'. Whereas the less extreme form holds only that nothing exists except the physical and what *supervenes* on that. (Use your favorite definition of supervenience at this point.) It may be that 'naturalism' has historically (in twentieth century history) been used for the less extreme form. In any event, the crucial problem in getting clear as to what physicalism or materialism is, is to clarify what it is for something to be physical or material.⁷⁸

Physicalism is grounded in arguments for the causal closure of the physical

domain. Scott Sturgeon says that it is grounded in the "simple" idea that, "Physicalism

flows directly from current scientific and common-sense knowledge of the world's causal

structure."⁷⁹ But what form does this "common-sense" causal knowledge usually take?

Jaegwon Kim offers an example:

Pick any physical event, say, the decay of a uranium atom or the collision of two stars in distant space, and trace its causal ancestry or posterity as far as you would like; the principle of causal closure of the physical domain says that this will never take you outside the physical domain. Thus, no causal chain involving a physical event will ever cross the boundary of the physical into the nonphysical: If x is a physical event and y is a cause or effect of x, then y, too, must be a physical event. Another (somewhat weaker) way of putting the point would be this: If a physical event has a cause at time t, it has a physical cause at t.⁸⁰

Kim's explication here should not be taken as an argument, but it does make some

assumptions that should be recognized. He assumes that, every causal chain is necessarily complete, such that every physical event could not have a cause or effect that 'crosses the boundary' from physical to non-physical. Despite the explicit determinism and the implicit introduction of an infinite regress, Kim offers an example that invites analysis. Again, this is not an argument and so I am not complaining that he does not go on to

⁷⁷ Robert Pennock, *Tower of Babel: The Evidence against the New Creationism* (Cambridge: MIT Press, 1999) pp. 189-90.

⁷⁸ William Alston, "What is Naturalism that We Should Be Mindful of It?" p.

⁷⁹ Scott Sturgeon, Matters of Mind: Consciousness, Reason, and Nature (London: Routledge, 2000) p. 121.

⁸⁰ Jaegwon Kim, Philosophy of Mind (Boulder, CO: Westview Press, 1996, 1998) p. 147.
provide one. I will offer an analysis from David Papineau in this section to just that effect. But we cannot merely accept this definition as self-evident, even if it does make up *part* of our commonsense conception of the world. From the proposition that, 'Whatever begins to exist must have a cause of its existence,' Kim wants us to assume additionally that, 'Whatever begins to exist that we can 'see,' must have a cause of its existence that we can 'see'.' We will see shortly that this is too big a crevasse to *assume*, given the current state of physical theory.

2.6.2: Naturalism's Relationship to Physicalism

"Many people continue to think of the scientific world view as being exclusively materialist and deterministic, but if science discovers forces and fields and indeterministic causal processes, then these too are to be accepted as part of the naturalistic worldview."⁸¹ The problem with comparing naturalism and physicalism is the divergence of normative claims involved in both. Like naturalism, physicalism is not derived from a finding of natural science. It is inferred from a conception of the structure of causation. A definition of causation is given, and then the claim is made that we know no other causation than this, therefore all causation is physical causation.

Causation is typically understood as a relation that takes place between two objects over time based on an exertion of force of the one object upon the other, the effect of which is determined by the relation of physical properties of the objects in correspondence (mass, shape, density, etc.) in a context of gravitational pull and inertia. If a metal sphere of 6 kg is rolled across a smooth table that is situated on a plane surface perpendicular to the gravitational pull at a speed of 3 km/h toward another metal sphere of 6 kg then, if nothing impedes the path of the first sphere, it will have a causal effect on

⁸¹ Pennock, Tower of Babel, p. 190.

the second sphere; namely, the first will cause the second to move in the same direction as the first. From this example it would seem that this view of causation is able to exhaust explanation of physical objects in relation to one another. But one question it leaves unanswered: who got the ball rolling?

From what we have seen of naturalism, the naturalist would be completely content with physicalism so long as natural science supports its dictates. But since nothing in the natural sciences immediately substantiates universal claims, it might seem strange to think that the naturalist would make the jump and accept physicalism. It would seem that a much more pragmatic version of physicalism would be needed to fit the naturalist paradigm.⁸²

Michael Rea highlights the fact that, since physicalism is an ontological thesis about every type of event or type of entity in the world, it can only be justified for the naturalist empirically:

What is important to note...is that adherence to materialism (reductive or not) is not an article of faith for the naturalist. Rather it is an empirical matter. ... Materialism is a definite ontological thesis – a particular view about what there is. Naturalism is not that; and being a naturalist carried commitment to materialism *only* insofar as science itself carries such a commitment. ... Naturalism (like science) might tentatively commit one to a particular ontological view, like materialism; but where science goes, there go the naturalist.⁸³

However, many philosophers of science argue that, in fact, a rational conception of physical laws does support belief in physicalism as a direct consequence of certain scientific discoveries, if for no other reason than that they are explanatorily powerful. In Thomas Kuhn's famous treatise on the history of science, he writes that any particular set of scientific theories to which we are committed can become methodological and

⁸² This is not a retraction of the previous sections concerning pragmatism's relation to naturalism. If science finds it pragmatically useful to accept a certain view of causation, then the naturalist will follow the lead of science. Here pragmatism is imbedded in a larger epistemology that is not tied to the justification of either naturalism or science.

⁸³ Rea, World Without Design, p. 40, emphasis his.

metaphysical theses. Concerning the corpuscularianism that followed from Descartes, Kuhn writes:

That nest of commitments proved to be both metaphysical and methodological. As metaphysical, it told scientists what sorts of entities the universe did not contain: there was only shaped matter in motion. As methodological, it told them what ultimate laws and fundamental explanations must be like: laws must specify corpuscular motion and interaction...⁸⁴

Because of the belief that science can determine an ontology, naturalism's relationship to physicalism is not the same as its relationship to empiricism or pragmatism. As we saw early in this chapter, physicalism is one of the methodological dispositions of naturalism. A philosopher could only hold physicalism normatively based upon what is called, "the causal argument for physicalism." If a philosopher regards the causal argument as determinative for physicalism, then the philosopher is not a naturalist. The naturalist is committed to science for determining the warrant for physicalism. But since the naturalist wants to claim that the physical world is all there is, and that science does or will support this, then if physicalism proves false scientifically, naturalism would lose its rational ground.

If the naturalist does not claim that the physical world is all there is, but instead that, all that exists is an object of scientific inquiry, then this would change the picture. The naturalist might not need physicalism to be coherent. If it turns out that mental events or states are really not physical at all, but are still relevant scientific objects, then the naturalist may continue to adhere to science in spite of the demise of physicalism. Naturalism is tied to physicalism only to the extent that it presupposes the universe to be only physical objects. However, without physicalism, the naturalist needs another story to substantiate the rejection of purportedly nonscientific methods of obtaining knowledge.

⁸⁴ Thomas S. Kuhn, The Structure of Scientific Revolutions, 3rd ed. (Chicago: University of Chicago Press, 1962, 1996) p. 41.

To prevent the need for this, a philosopher might accept the causal argument for physicalism, but then she would stop being a naturalist, since the causal argument is a piece of first philosophy.

I need not change my characterization of naturalism from that presented earlier that physicalism is a methodological disposition of contemporary naturalism. It is true that many philosophers feel inclined to mention their affinity for the doctrine as part of their naturalistic position. But I have just demonstrated that it is not necessary for a specifically naturalistic position. However, without it, the naturalist is still just arguing for other philosophers to accept science as *a* legitimate method of inquiry, which is trivial since most philosophers do, and not naturalism in a substantive sense. Without physicalism it is difficult to compel the additional belief that science is the *only* legitimate method of inquiry, since causal closure is enough to substantiate the doctrine on its own.

The result of the falsity of physicalism would be a philosophical position without the distinctives of naturalism. Yet this still does not warrant a reduction of naturalism to physicalism. Since both are independent philosophical theses, it is possible that one be a physicalist without being a naturalist, though it is difficult to see how it could go the other way, without some other system of scientific explanation that does not appeal to causation. If naturalism fails on grounds other than those physicalistic, then physicalism remains open to question of its own legitimacy. Both naturalism and physicalism need independent arguments to secure their rationality, however, since naturalism's claims are intricately tied to physicalism, these must be added to the naturalist's justification, whereas the physicalist need not provide justification beyond his narrow causal claims.

70

First we will look at the most common argument for physicalism, called by Papineau the "causal argument for physicalism."⁸⁵ Then I will examine the burden placed upon both the proponents and opponents for the proof or disproof of the argument. In conclusion I will just note the extent to which naturalism is attached to physicalism and raise the points of contention. Due to the exceptionally technical nature of the field and to the fact that it takes us far afield, I will not attempt the difficult task of showing that the argument for physicalism is unsuccessful, but will merely raise the issues in such a way to indicate that it is a philosophical rather than an empirical question. This makes the issue more complicated for the naturalist, though not insurmountable.

2.6.3: Four Propositions in the Causal Argument for Physicalism

If naturalism is not identical with physicalism, then for physicalism to be held rationally it must be justified independently. For the naturalist to hold the principle of causal closure consistently it must be justified *empirically*. E. J. Lowe tells us, "...[F]or it to have any persuasive force, the causal closure principle must be one for which some measure of empirical support can plausibly be mustered..."⁸⁶ The rejection of *a priori* philosophy prevents the naturalist from making use of the sketchy inference from the fact that we have no *empirical* knowledge of any other type of causation, to the conclusion that no other type of causation exists. And since causation is defined in empirical terms, this reasoning would be either circular or tautological. But the naturalist takes it that contemporary science warrants a claim beyond circularity to empirical substance in favor of physicalism. I will not recount the interesting history of the development of the scientific shift toward physicalism, but would direct the reader to the comprehensive

⁸⁵ David Papineau, "The Rise of Physicalism,"

http://www.kcl.ac.uk/ip/davidpapineau/Staff/Papineau/OnlinePapers/Risephys.html.

⁸⁶ E. J. Lowe, "Causal Closure Principles and Emergentism," *Philosophy*, vol 75, no. 294, October 2000, p. 572.

accounts in the literature, not the least of which is David Papineau's "The Rise of Physicalism."⁸⁷ Empirical data leaves the philosopher with four principle propositions to determine whether physicalism is true.

E. J. Lowe says that the problem for causal closure principles is formulating them in such a way that they are not too strong or too weak. The necessity of the empirical element places a limit on how strong they can be, but they cannot be so weak that they are invalid.

According to Lowe, a "causal closure argument" has three premises:⁸⁸

(a) a physical causal closure principle [or, more commonly, the principle of the completeness of physics]
(b) the claim that at least some mental events are caused by physical events
(c) the claim that the physical effects of mental causes are not, in general, causally overdetermined

These are then thought to entail the anti- 'metaphysical dualist' conclusion:

(d) At least some mental events are identical with physical events.

This is the classic argument, usually called the Overdetermination Argument.⁸⁹ Lowe

provides examples of attempts to formulate principles of the completeness of physics, or

premise (a):⁹⁰

(e) Papineau: All physical effects have sufficient physical causes.
(f) Sturgeon 1: Every physical effect has a fully revealing, purely physical history.
(g) Noordhof: Every physical effect has its chance fully determined by physical events alone.
(h) Sturgeon 2: No physical effect has a non-physical cause.
(i) variation Papineau: Every physical event which has a cause has a sufficient physical cause.

A specific explication of what it means for physics to be closed would be important if I were attempting a more in-depth analysis. For now, we may allow for a broadly construed physics that, in principle, accomplishes its desired goal: to explain the

⁸⁷ See fn. 53.

⁸⁸ E. J. Lowe, "Causal Closure Principles and Emergentism," p. 572.

⁸⁹ Lowe, Sturgeon, Papineau.

⁹⁰ Lowe, "Causal Closure..." pp. 573-74.

world in purely *scientific* terms. A physicalist might say that physics is the attempt to explain the world in purely *physical* terms, but as we have seen, there is no reason to conflate the two. However, the causal closure of physics, as explained by physicalists, is intended to proscribe broadly nonphysical or nonscientific causal explanations like that of a supreme being or a substance like a soul. With Papineau, we might blanket the realm of physics the realm of "non-mental."⁹¹ Since the problem of mental events is the most empirically obvious, the argument usually takes place at this level. On Papineau's view, mental events are identical with something non-mental (physical), which allows them to hold causal relations with non-mental (physical) effects, but that whatever the objects of the 'mental' turn out to be, these are supposedly not causal forces in and of themselves.

Problems are compounded when we see that the principles used in support of causal closure against interactionist dualism are themselves formed with language entailing a prior ontological commitment. Each statement makes claims about "Every physical effect or event" or "No physical effect or event". The problem is not the ontological commitment itself, but the inability to justify a universal commitment by empirical means. We may agree, at the outset, with Papineau, who explains that:

As a preliminary, note that contemporary physicalism is an *ontological* rather than a *methodological* doctrine. It claims that everything is physically constituted, not that everything should be studied by the methods used in physical science. This emphasis on ontology rather than methodology marks a striking *contrast* with the "unity of science" doctrines prevalent among logical positivists in the first half of the century.... The logical positivists were much exercised by the question of whether the different branches of science, from physics to psychology, should all use the same method of controlled observation and systematic generalization. They paid little or no attention to the question of whether everything is made of the same physical stuff.⁹²

There is a question about what might be reasonably construed as 'physically constituted' at any given time, since physicists add entities and expand definitions over

⁹¹ Papineau, "The Rise of Physicalism," pp. 8-9.

⁹² Ibid., p. 1, emphasis mine.

time. But Papineau says that it is much less important to determine what *is* physical than

what is not.

We might not know enough about physics to know exactly what physics does include. But as long as we are confident that it <u>excludes</u> such-and-such special categories, then we can use the causal argument to conclude that these special categories are in fact identical with other kinds. I shall suppose this indirect understanding of "physics" in what follows: it should simply be understood as that set of properties which can be specified without appeal to whichever special vocabularies (mental, biological, . .) we are interested in. Correspondingly, the completeness of physics will be the doctrine that such non-special effects are always fully accounted for by non-special causes. (Cf. Papineau and Spurrett, 1999.)⁹³

Papineau does not specify what categories are to be excluded, but he hints that these are the classes of things that purport to introduce nonphysical causation into the physical realm. It might be something that, as Kim noted earlier, takes us out of "the physical domain." This is still vague. For now, we must follow Kim and Papineau and conclude that there is an intuitive notion a type of causation that is possibly empirically unavailable, some sort of nonphysical causation, but which the empirical sciences have shown to be false. But proponents cannot just say that the empirical sciences have not shown this to be true, and that therefore we may assume that it is false. This is because, if the sciences are only directed toward physical causation, they may not be able to determine nonphysical causation as false, and therefore it would be an argument from silence. The physicalist must make the additional claim that scientific reasoning shows nonphysical causation to be false, since such reasoning permits us to say something beyond the purely physical.

In addition, we should qualify any statement of physicalism as a statement concerning causal relations, and not 'existence' *per se*. This seems odd in light of

⁹³ Ibid., p. 9.

Papineau's claim that physicalism is an ontological doctrine. But consider Papineau as he

concedes a little later:

Physicalism is the doctrine that everything, including prima facie non-physical stuff, is physical. But the completeness of physics [just one of the necessary propositions] doesn't itself say anything about non-physical things. It is purely a doctrine about the structure of the physical realm. It says that, if you start with some physical effect, then you will never have to leave the realm of the physical to find a fully sufficent cause for that effect.⁹⁴

I myself think that this limitation to the causal argument constitutes a genuine boundary to the proper ambitions of physicalism. I think that physicalism is best formulated, not as the claim that everything is physical, but as the significantly weaker claim that everything which interacts causally with the physical world is physical. This leaves it open that there may be non-causal realms of reality which are not physically constituted, such as the realm of moral worth, or of beauty, or of mathematical objects. ...

Of course, there may be other problems with such non-physical realms. For example, it is not clear how we may come by knowledge of such realms, if they can have no physical effects on our sense organs. But these further arguments are by no means clearcut, and there is no special reason why they should be accepted by everybody who accepts the causal argument. Because of this, I shall use "physicalism" in the rest of this paper specifically for the doctrine that everything with causal powers is physical, whatever may be true of non-causal realms.⁹⁵

Therefore, when physicalists, or naturalists for that matter, make universal claims concerning what exists or what is knowable, they are referring specifically to the structure of causation and those entities that can causally exert physical effects. This does not change the tone of the argument, but it does make it more explicit, preventing straw men arguments concerning claims that an existence claim *tout court* is implied by physicalism. The physicalist stance on causation here will be the same as the naturalist's, as we will see in our review of naturalism and theism, for, as long as God, or any supernatural being, remains causally constrained from interacting with the universe, then no controversies arise from positing them. However, since those who typically are interested in supernatural entities also think that it makes a difference to reality whether

⁹⁴ Ibid., p. 5

⁹⁵ Ibid., p. 8.

or not they exist, and since this is the heart of many of their arguments, the issue of causation remains the relevant concern in such arguments.

In looking back at the propositions in Lowe's argument, it is important for us to understand that, though the Overdetermination Argument is the most prominent argument structure in favor of physicalism,⁹⁶ it is actually the result of some larger-scale reasoning concerning the four propositions involved. Science and common sense offer us four logically independent propositions concerning the nature of causal events. These include, again:

(1) The completeness of physics (whatever this completeness turns out to be)
 (2) The fact that the mind is involved in at least some physical effects.
 (3) That physical effects usually do not have or need more than one specific cause (that is, "The physical effects of mental events are not generally overdetermined."⁹⁷).
 (4) Mental events are not commonly thought to be identical with physical events (dualism).

And we might allow a fifth to enter the question, since the denial of (4) is the typical conclusion of the Overdetermination Argument,

(5) "Mental occurrences must be identical with physical occurrences."98

The issue is whether we want to allow (1) - (3) to tell against (4). There are obviously other ways of dealing with these propositions. We might allow (1), (2), and (4)to argue against (3), in what Sturgeon calls the "anti-No-Overdetermination" argument.⁹⁹ Or we might allow (1), (3), and (4) to argue against (2), resulting in mental epiphenomenalism. Or, we might go with the traditional dualist route and allow (2), (3), and (4) to argue against (1), claiming that there is no good reason to think that physics is

⁹⁶ Again, since most of this discussion takes place in philosophy of mind, the Overdetermination Argument is typically employed to show the reducibility of the 'mental' to the 'physical.'

⁹⁷ Scott Sturgeon, Matters of Mind: Consciousness, reason and nature (London: Routledge, 2000) p. 123.

⁹⁸ Papineau, "The Rise of Physicalism," p. 6.

⁹⁹ Sturgeon, p. 123.

complete in a significant way. This last option brings into relief the need for developing an adequate 'completeness of physics' claim.

Since epiphenomenalism has been out of vogue for some time, and since the "anti-No-Overdetermination" argument leads us to reject Occam's Razor concerning causes and leaves room for any number of explanatory claims, without the tools to discern between them, the original option and the last option have taken center stage, and many contemporary philosophers also reject the last. Yet, since the question remains on the table, the argument, for anyone still interested, revolves around defending the completeness of physics.

Papineau takes up this defense with all seriousness and shows why we are historically warranted in accepting the completeness of physics in his, "The Rise of Physicalism." He begins his historical analysis with a concession that science has not always told a coherent picture with regard to the completeness of physics.

To my surprise, I discovered that some people didn't agree. They didn't see why some physical occurrences, in our brains perhaps, shouldn't have irreducibly mental causes. My first response, when presented with this thought, was to attribute it to an insufficient education in the physical sciences. Sometimes I went so far as to communicate this diagnosis to those who disagreed with me. However, when they then asked me, not unreasonably, to show them where the completeness of physics is written down in the physics textbooks, I found myself in some embarrassment. Once I was forced to defend it, I realized that the completeness of physics is by no means self-evident. Indeed further reading has led me to realize, far from being self-evident, it is an issue on which the post-Galilean scientific tradition has changed its mind several times.¹⁰⁰

At the end of a lengthy historical analysis, Papineau offers two "empiricallybased" arguments for the completeness of physics, and both with the same conclusion that "there are no special mental or vital forces."¹⁰¹ The arguments look like this:

(6) <u>The Argument from Fundamental Forces</u>. The first argument is that all apparently special forces characteristically <u>reduce</u> to a small stock of basic physical forces which conserve energy. Causes of macroscopic accelerations standardly turn out to be

¹⁰⁰ Papineau, "The Rise of Physicalism," pp. 9-10.

¹⁰¹ Ibid., p. 20.

composed out of a few fundamental physical forces which operate throughout nature. So, while we ordinarily attribute certain physical effects to "muscular forces", say, or indeed to "mental causes", we should recognize that these causes, like all causes of physical effects, are ultimately composed of the few basic physical forces.

(7) <u>The Argument from Physiology</u>. The second argument is simply that there is no direct evidence for vital or mental forces. Physiological research reveals no phenomena in living bodies that manifest such forces. All organic processes in living bodies seem to be fully accounted for by normal physical forces.

I take these arguments to be fairly obvious, and do not wish to dwell on their explication. Papineau does take some time to expound, but mostly to the effect that since there are regular causal "law" effects whose causes are physical and empirically detectable, then we are warranted in assuming that all physical effects similarly have physical causes. And since we have never had any evidence to the contrary, we can assume that this is confirmed by the fact that current scientific procedures continually do not find evidence to the contrary.

There are huge assumptions here. First concerning the nature of empirical tests and their ability to detect causes other than physical. Though we do not regularly have perceivable effects without causes, we certainly have plenty of effects for which we are ignorant of the cause, or at least ignorant of the coincidence of an event and an apparently independent effect, e.g. laboratory tests on the efficacy of prayer. But, let us grant this conceptually and agree that warrant remains.

Many naturalists hold a neo-Humean view of causation.¹⁰² Because of this, the casual assumption is only broad enough to cover non-intentional causes. For any physical effect with an intentional cause (e.g., raising my arm) we might ask 'why' and expect a reason, which we may or may not accept as 'causal' in the relevant sense. In the same way, if the intervening influence was intentional, say, because some non-physical 'being'

¹⁰² Papineau, Philosophical Naturalism (Oxford: Basil Blackwell, 1993), chapter 1.

wanted it that way, then there need be no relevant physical causal chain, leading to our ability to predict this being's existence. For instance, knowledge of causal regularity is never based upon one event that may or may not ever happen again, but upon several events, sometimes with relevant controls employed to isolate effects in order to determine a relevant physical cause. But say I raise my arm once and never raise it again—a *l* relevant possibility if we suppose that I am in control of my own actions. The probability of my raising my arm prior to my actually doing it is *nil*, since I have never done so in the past, and past events are necessary for accurate probability assessments. The probability of my doing it again is raised after I do it once. But no physical causal explanation may ever be given for why I raised my arm in the first place.

On the other hand, if I am a court bailiff and am asked to 'swear people in' on a regular basis, then there may be relevant physical causal explanations for why I raise my hand at certain times on certain days. But these (statistically) presuppose that I have done it more than once, and that we can isolate the relevant controls such that it is predictable whether I will do so again; perhaps I am fired from the job, or get a promotion. The same can be true for any non-physical being who chooses to act differently, though regularly in a physical causal context, or one who chooses to act upon mental states rather than brain states. For instance, if a wind-up mechanical toy with an on-off switch, which is wound up and set to 'off,' sits for eternity, there is nothing internal to its mechanism that will cause it to start unwinding. If it had a timer that was counting down to the time when the switch would click to 'on,' we would just turn our attention to the mechanism of the timer rather than the wound spring. It might be logically possible for the counter to count down from eternity, but this would assume that an infinite set of numbers could be

counted down in reverse. In addition, any given moment would constitute an instance of the completion of an actually infinite number series composed of finite indicators. Because there is no initial corresponding goal for which an infinitely distant starting point is designed, there remains no 'explanation,' causal or otherwise for the start of toy, for the Neo-Humean. Since many naturalists claim to hold a neo-Humean version of causation, their naturalistic explanations are limited by these examples.

On the other hand, if a man was sitting from eternity, motionless, but kinesthetically capable, he could, at any given instant (presupposing the existence or creation of a time structure) choose to stand. There would be no physical causal antecedents that could act as an explanation for his standing. But the fact that this is possible, even if it constitutes an arbitrary act, falls outside the scope of Papineau's argument. For these reasons Papineau's arguments, though perhaps completely true, do not provide a reason to accept the completeness of physics, as delimited by causation, and therefore physicalism.

Scott Sturgeon goes a step further and offers two reasons that the argument as a whole is problematic. Sturgeon says the problem comes with defining physicality in a relevant sense. If 'physical' is defined as microphysical, then our completeness claims gets reduced to quantum completeness:

(j) Quantum Completeness: Every quantum effect has a fully disclosive, purely quantum history.

But this then changes the second proposition from earlier, what Sturgeon calls "mental impact" clause, reducing it to quantum causation:

(k) Quantum Impact: Mental events have quantum effects.

80

But this claim is not scientific or commonsensical. "This claim is *not* part of extant science; nor is it part of everyday experience. No working scientific theory postulates a pervasive link between mental events and quantum events. And neither does common sense."¹⁰³ Therefore an extra argument is needed to show this link if the Overdetermination Argument is to prevail. Another route might be to take physical as meaning broadly physical, or macro-physical, including "handshakes, hiccups, and the felling of trees."¹⁰⁴ Doing so would change the impact claim to something acceptable:

(1) Broad Impact: Mental events have broadly physical effect.

But then the completeness claim becomes problematic:

(m) Broad-Completeness: Every broadly physical effect had a fully disclosive, purely broadly physical history.

Again, (m) is not part of either science or commonsense. "Quite the contrary: both macro-science and everyday experience rely upon mental causes for broadly physical effects."¹⁰⁵ Therefore, the problem that Sturgeon raises is the same problem that has vexed physicists between quantum physics and relativity theory for years: attempting to identify a relevant link between the micro- and macro-physical structures of the world. Sturgeon offers several possible solutions to the problem as he's couched it, but ultimately ends his entire book with the "Wait-and-See" policy.

'What's the take-home message of your book?', asked a good friend and colleague. 'TheWait-and-See view', I relplied. 'Oh,' he said helpfully, 'you'll never get famous pushing *that* view.' Fair enough. But there's nothing to be done for it. The facts support the view. When it comes to the Mind-Body Problem, the reasonable position is Waitand-See.¹⁰⁶

Papineau agrees, to an extent, at the end of his paper saying:

¹⁰³ Sturgeon, p. 124, emphasis his.

¹⁰⁴ Ibid., p. 125.

¹⁰⁵ Ibid, p. 125.

¹⁰⁶ Ibid., p. 155.

Of course, as with all empirical matters, there is nothing certain here. There is no knockdown argument for the completeness of physics. You could in principle accept the rest of modern physical theory, and yet continue to insist on special mental forces, which operate in as yet undetected ways in the interstices of intelligent brains. And indeed there do exist bitter-enders of just this kind, who continue to hold out for special mental causes, even after another half-century of ever more detailed molecular biology has been added to the inductive evidence which initially created a scientific consensus on completeness in the 1950s.¹⁰⁷

My point in all of this is just to note that naturalism is tied inextricably to the fate of physicalism, (though not vice versa) and that this fate is yet to be determined. In fact, much analysis is left concerning what constitutes a relevantly physical state or event, and much empirical evidence is needed to determine the extent to which the brain is involved with intentional states. Naturalists must be able to make a compelling case for physicalism to sustain their belief in the causal closure of the universe and the nonexistence of *a priori* knowledge. But while the direct empirical evidence is not in either way, the philosophical analysis continues and creates some interesting obstacles for naturalists and physicalists alike.

2.7: Scientific Realism

2.7.1: Intro

Growing discontent with verificationist theories of meaning lead philosophers in the 70s and 80s to raise again the question of realism vs. antirealism. On the verificationist framework, both terms were meaningless. Positivist Moritz Schlick writes in response to those who claim 'There is only the given,' that "We must insist, however, that whoever states this proposition seeks to establish an assertion which is metaphysical in exactly the same sense and degree as its apparent contradictory: 'There is a transcendent reality.'¹⁰⁸ Naturalists after Quine, on the other hand, began to think that naturalism could secure the necessary criteria that enable a realist perspective of science.

¹⁰⁷ Papineau, "The Rise of Physicalism," p. 24.

¹⁰⁸ Moritz Schlick, "Positivism and Realism," in A. J. Ayer, *Logical Positivism* (New York: Simon and Schuster, 1996). Of course, Schlick is referring to the negative part of the statement, the 'only,' rather than denying that science can tell us anything about the 'given.'

But the conjunction of naturalism and realism is not as die-cut as we would initially think. The idea behind realism is that science expresses the world as it actually makes itself known to us through experiment. And naturalism, with its reliance on science as the only legitimate form of knowledge, seems to agree nicely. The gap comes with the introduction of the concept of 'truth as correspondence.'

Realism says that we can have truth about reality because the various data of science corresponds to the various features of reality. Alex Rosenberg defines it as, "the thesis that our scientific theories are approximately true, and increasing in their approximation to the truth."¹⁰⁹ The question then is how knowledge is construed on a naturalistic framework. If the naturalist holds a correspondence theory of truth, then her naturalistic claims must agree with scientific realism. If the naturalist does not hold this view of what counts as truth, say, if she holds a coherence theory, then the naturalist holds some form of antirealism and the strict adherence to science is to an end other than truth; say, constructivism, for instance. Both programs seem to be *prima facie* acceptable, and everyone within the conversation seems to divide the issues this way.¹¹⁰ I will briefly review both, but since many more naturalists claim realism than antirealism, I will explain the conditions upon which this relationship between naturalism and realism rests and offer some suggestions as to why naturalism cannot provide the necessary conditions for a realist perspective.

This conception of realism is a little different from its original form, whereon the question centered on whether objects exist outside the mind or inside the mind only. In

¹⁰⁹ Alex Rosenberg, "A Field Guide to Recent Species of Naturalism" <u>British Journal of Philosophy of</u> <u>Science</u>", 47 (1996): pp. 5-6.

¹¹⁰ Antirealists in this discussion include Daniel Dennett and Larry Laudan; and realists include, Michael Loux, Richard Boyd, and Alexander Rosenberg. Philip Kitcher flip flops on the issue, remaining undecided as to what is supposed to count as realism.

laying out our conception of science, we have identified certain events and entities that are reasonably held to exist and which are useful in scientific processes. These included mental events, memory, and theoretical entities such as those posited in theoretical physics. What we might add to this reasonable conception is the existence of other minds. While there are no logical proofs against solipsism, epistemologists have gone a long way toward showing why we are warranted in believing in the existence of other minds, that we are not brains in vats, that the world is more than five minutes old, etc.¹¹¹ Though I will not argue the point, I will assume that the point has been made that the existence of other minds is relatively uncontentious. Since we are rational in holding that something exists outside of our mind the realist question changes face slightly, from whether anything exists, to whether I am accurately representing that which does exist. Depending upon the structure of my cognitive faculties it may be the case that I have representations that are reliable for pragmatically true beliefs but not for beliefs that correspond to reality. As an instance of such a case, consider Moritz Schlick's excellent example. After considering that his personal experience of two different green pieces of paper is identical and therefore, he has verified a proposition that they are identical, he considers his beliefs concerning another person who, after viewing the same data, comes to the same conclusion:

Now I show one of these two pieces of paper to a second observer, and ask the question: does he see the green as I do? Is his color experience like my color experience? This case differs in principle from that just considered. While there the statement was verifiable by the experience of color sameness, here, brief reflection shows, such a verification is simply impossible. Of course the second observer, if he is not color blind, calls the paper green, and if I describe this green to him more closely by saying: it is yellower than this carpet, but bluer than the billiard cloth, darker than this plant, etc., he will find the same to hold in his experience, i.e. he will agree with my statements. But even if all his judgments about color agree entirely with mine I cannot infer from this

¹¹¹ Cf. especially Alvin Plantinga, God and Other Minds: A Study of the Rational Justification for Belief in God (Ithaca, NY: Cornell University Press, 1967).

that he experiences this same quality. It could be the case that on looking at the green paper he would have a color experience which I would call "red," that on the other hand, when I see red he would see green, calling it "red" of course, and so on. ... The proposition that two experiences of different subjects not only occupy the same place in the order of a system but are, in addition, qualitatively similar has no meaning for us.¹¹²

Schlick is arguing that we cannot verify correspondence-type truth. Since, "It could be the case that only looking that the green paper he would have the color experience which I would call 'red," then the observer seems to have no way of objectively identifying whether his perception corresponds to reality or just the perceptions of another observer in a practical way. The first question that such an example might raise is: so what? If we do not have warrant for such truth-statements, but retain the capacity for efficacious judgments, why does it matter that we cannot verify correspondence-type truth? My answer is simply the normative knowledge claims intrinsic to so many philosophical systems, especially naturalism. If the extent of our knowledge concerns only those claims that we are efficacious in making, then we cannot judge the truth or falsity of another system except insofar as it is efficacious to the one who holds it. We are left without normative knowledge claims, though some systems would be more reliable than others for accomplishing certain goals. On the other hand, if there was something that we were rational in believing, that at the same time, gave us warrant to think that our cognitive faculties represented correspondence truth, then we could make certain normative and even universal (because justifiable) claims, so long as they remained within the boundaries of the original warranted belief about those faculties.

As a descendent of the scientific conception of the world first constructed by the late positivists (Carnap, Schlick, Hempel), naturalists hold science as the all-determining

¹¹² Moritz Schlick, "Positivism and Realism," p. 93.

factor for all inquiry into reality, whether it be further scientific research or philosophical clarification. But naturalism differs from positivism in several important respects. The most conspicuous is naturalism's realistic view of science as opposed to the late positivists' constructivist approach.¹¹³ Where positivists saw science as a pragmatic enterprise for efficient manipulation and prediction within the given of experience, naturalists, for the most part, accept science as providing a more-or-less accurate picture of the world as it objectively exists in itself. This is not true for all naturalists as we shall see, but realism remains the dominant conception of science for contemporary naturalism.

Another respect in which positivism and naturalism differ is the content of their projects. Whereas positivism rejected, for the most part, traditional philosophical projects, many naturalists remain committed to traditional questions of ontology, epistemology, mind, and ethics. Naturalists approach these questions in different, particularly scientific, ways, but they do not reject the questions altogether. The question of realism rose again to the fore in the face of the rejection of positivism.

Between the time of Kant's *Critique of Pure Reason* and Quine's "Two Dogmas of Empiricism," "scientific realism" was considered a metaphysical position that could be excised with all projects concerned with "speculative subjects" such as religion. Early positivists like Comte and Moore wanted a verificationist criterion of meaning that indicated truth in the form of certainty. But certainty implies realism, just as necessarily true propositions imply realism. Even though early positivists like Mach rejected realism, since he still sought a form of certainty, which asks for a specific realist justification. But

¹¹³ Constructivism was not true of positivism across the board, as we will see, with certain positivists, like Gustav Bergmann, pushing for a version of realism in science.

later positivists rejected realism as the same type of project as transcendental knowledge. This rejection is the logical consequence of certain positivist claims, namely the unempirical natural of the issues involved in realism. One interesting problem is that the claims that made realism problematic for the positivists also make them problematic for naturalists, though many naturalists claim a realist ontology. The central difference on this topic is that, where the positivists called the 'realist' project meaningless, naturalists call it 'true,' and therefore a meaningful question. Some naturalists, such as Larry Laudan,¹¹⁴ choose to claim that realism is false, but since the "fall" of positivism it has been re-opened as a legitimate question.

The push for realism in the face of logical theory and verificationism actually came into relief in the midst of positivism, despite its all out rejection of the concept. Positivists rejected 'realism' and 'idealism' and the argument surrounding them as a(n) (empirically) meaningless project, so it seems odd to hear that a positivist actually pushed for a realist version of the verificationist thesis. But not all positivists were convinced that verificationism proscribed the question of realism. Schlick began his investigations as a realist, but then changed his position as he saw that it did not follow from the rest of his claims. One member of the Vienna Circle actually argued in favor of shifting the positivist project in the direction of realism. Wilfird Sellars called Gustav Bergmann, "one of the most coherent, drive down the road to the bitter end, ontological realists in the world today."¹¹⁵ Bergmann's argument, however, does not end up beyond a mere "stuff" ontology that follows from his admittedly pragmatic project, and only redefines 'realism' for positivist use.

¹¹⁴ Larry Laudan, Science and Values (Berkeley: University of California Press, 1984a).

¹¹⁵ Wilfrid Sellars, Naturalism and Ontology, p. 48.

Bergmann, in his influential *TheMetaphysics of Logical Positivism*,¹¹⁶ argues for a shift from the conclusion that a statement is 'meaningful because it is verifiable,' to the conclusion that 'a statement is verifiable because it is meaningful.'¹¹⁷ Think about the drastic nature of this shift! Bergmann rejects all "philosophical statements" as meaningless metaphysics and wants all inquiry to begin with common sense experience,¹¹⁸ yet his proposed shift belies all indication of this. In the first claim, experience, or the possibility thereof, is allowed to define the scope of meaningful statements. In the second claim, experience is secondary to the existence of something that can be, qualifiedly, verified. The existence of something's being able to be experience of that something and is therefore a non-empirical claim. This is certainly a drastic shift for a positivist.

Bergmann, however, claims to arrive at his realist thesis in a different manner than the traditional realists. And it is the limitation of his argument that is relevant for a critique of naturalism and therefore this project. He says that traditional realists, "...instead of founding existence upon experience, they want to found experience (among other things) upon existence. To be sure, this is but a bare and crudely formulated schema of an issue that has been argued for a long time."¹¹⁹ But didn't Bergmann say just this same thing? Later he says, "...I shall arrive at this conclusion within the framework of my own positivistic position."¹²⁰

 ¹¹⁶ Bergmann, The Metaphysics of Logical Positivism (New York: Longmans, Green, and Co., 1954).
 ¹¹⁷ Ibid., pp. 154-55.

¹¹⁸ Ibid., pp. 156-158. Bergmann talks about reconstructing common sense on terms different from that of Carnap's reconstruction. Bergmann does not want to strictly reduce all experience to observation statements, but he wants to begin "qualities of relations" as a general common sense-based starting point. ¹¹⁹ Ibid., pp. 153-54.

¹²⁰ Ibid., p. 155.

We have just cause to be confused. Bergmann is content by the end of his chapter that he has arrived at a realist thesis, whereon a proposition is verifiable because it is meaningful, by using the principle that a meaningful proposition is only meaningful because verifiable. He walks through the exact same arguments as his counterpart positivists to show why some concepts are meaningless and how others reveal material objects, although he adds some interesting insights to the positivist position concerning sensory perception, memory, and intentional states. But where his argument ends up is still positivistic to the core, in that a meaningful statement is one which is verifiable just in case it "does something" in an empirical system, even if not directly testable, e.g., memory.¹²¹ The questionable element of the positivist analysis of linguistically factual statements with regard to realism is their logical conclusion concerning material objects. For the positivist, no "real" material *object* exists, or can meaningfully be said to exist, and Bergmann acknowledges just this. "Physical objects are not particulars, not, at least, according to the view here taken or, as I had better say, not in a sense data language...physical objects are patterns."¹²²

A material object is merely "a pattern [of sense data] that is never fully apprehended."¹²³ "As a pattern, a physical object is much more complex than a symphony, so complex indeed that nobody can, other than *in principle*, write out its sense

¹²¹ Though memory, for Bergmann, is not empirically testable, it is directly perceivable and as such holds the same status as sensory perception. "I am, in fact, inclined to believe that memory is a direct and irreducible source of knowledge about the past in exactly the same sense in which perception may be said to be such a source for knowledge of the present," (p. 162). However, the reliability of perceptions and memories relies upon correlation with other minds' conceptions of them, for which Bergmann only has a "pattern" of instantiated properties, which we shall examine presently. "...for I can with a partially colorblind man talk about colors beyond his acquaintance in a sense in which I cannot talk with a blind man about color," (p. 170).

¹²² Ibid., p. 163.

¹²³ Ibid., p. 165.

data score.¹²⁴ But patterns of sense data, if we accept the belief that something other than ourselves exists, do not produce physical objects, but merely "stuff" in certain relations. The sense data received, again, take a pragmatic function within the cognitive system for whatever goal to which they are attuned. Therefore the fundamental question as to what our cognitive faculties are attuned arises. As we will see, current scientific theory, namely evolutionary theory, has a very narrow answer to this question. But, as the naturalist is confined to the methods and findings of the natural sciences, she might be bound to the pragmatic fate of the positivist. The positivist typically accepts this logical conclusion. Bergmann merely redefines 'realism' for his purposes. The naturalist needs a world of material objects to make his realism clear and justified.

Let me quickly clarify what I mean by a "stuff" ontology in contrast with an "objects" ontology. A perennial philosophical question concerns whether we can, through our senses or scientific inquiry, identify the relevant aspects of what constitutes an 'object' in distinction from other objects. If we merely rely on our senses, we experience the world as a seamless conjunction of colors, textures, sounds, and tastes all in relation to one another in different ways. We are left wondering whether there is something about, say, this flat, smooth, surface that supports this round, smooth, red circle, that distinguishes it from the circle. Is there an 'essence' of 'chairness' or 'appleness'? Science has not indicated that there is such an essence, only relations among data. We are left with a world full of 'stuff' rather than a world full of 'objects.'

One aspect of Bergmann's project is to explicate the "common-sense" notion of the reality of material objects within the positivist program. He makes the claim (but does not argue for it), that, "If one's aim is to reconstruct the common-sense notion of physical

¹²⁴ Ibid., p. 165.

object as it refers to walls, chairs, and tables, then one will include a good measure of spatial and temporal coherence, persistence, and continuity, and, besides the obvious 'sensory qualities,' not much else."¹²⁵ However, it is precisely (though not exclusively) the "persistence" conditions that he cannot define within a positivist framework. This is because the common-sense notion of material objects comes prepackaged with the notion of certain intrinsic modal properties concerning the conditions on which an object persists through a length of time. In other words, we generally know what changes an object can and cannot survive. For example, we know that Gustav was such a thing that could survive a trip to Africa, but could not survive a trip through a meat grinder. We must ask if there is any "fact," then, at all about what Gustav can and cannot survive. Michael Rea explains further:

Many are willing to accept some indeterminacy in persistence conditions. Thus, for example, one might think that if we were to annihilate Socrates's constituent atoms one by one, there would be no fact about *which* atom was the one whose annihilation finally did him in. But accepting this kind of indeterminacy is not the same as accepting the view that Socrates lacks persistence conditions altogether. I know of no one who would say that there is no fact about whether Socrates could survive the simultaneous annihilation of *all* of his constituent atoms; and, again, similar remarks could be made with respect to any material object.¹²⁶

Rea's ultimate point is that we come to acquire these modal beliefs in some way,

but that way is not explicable by any known science. Science specifically identifies extrinsic properties and how these properties behave and most philosophers of science eschew essences on this basis. Therefore, for Bergmann, or any salient naturalist, to be justified in 'realism' as here construed, then something must be introduced to the argument to warrant such a claim. We do not typically want to be left with a "stuff" ontology. This "problem of material constitution" might plague any significant

¹²⁵ Ibid., p. 165.

¹²⁶ Michael Rea, World Without Design, p. 82, emphasis his.

philosophy of science, but I will not raise it again. I employed it merely as a tool to highlight the difficulty of any realist thesis.

Though realism is drastic jump for a positivist, it is not supposed to be a jump for a naturalist at all, for whom realism is supposedly a consistent implication of scientific methodology. The problem is that the naturalist has not indicated in what sense that science is compatible with material objects, much less the nature of their relation to the human mind. Many naturalists still assume material objects and realism without examining the issues. Wilfrid Sellars, in defending his status as a naturalist, says that naturalism, "...if it does not entail scientific realism, is at least not incompatible with it."¹²⁷ As we will see in William Ramsey's argument below, the developments in evolutionary theory may have provided an interesting door through which realism and reliabilism might enter, though it is unclear that they provide any help with regard to material objects.

2.7.2: Justifying Realism

To justify any philosophical position the philosopher may appeal to either logical necessity or natural science. The case is no different for naturalists concerned to defend a realist position for science. With logical necessity a conclusion cannot be otherwise whether the entity or does not exist or whether the event took place or did not take place. With broadly logical necessity, if a condition is such and such then a conclusion could not be otherwise that an entity or event is other than the condition necessarily implies. We are then left with the burden of proving the condition with a reasonable amount of evidence. Some think that all logical necessity involves tautologies and offers no content to the effect of telling us with certainty whether something is 'real' in the relevant sense.

¹²⁷ Wilfrid Sellars, Naturalism and Ontology, p. 2.

This seems to be the case and with this consequence we are relieved of the burden of certainty. We can therefore believe that some condition or other provides a reasonable amount of assurance that we are perceiving 'reality' rather than some narrower conception of the world such as what is pragmatic or instrumental.

An example of broadly logical necessity involves the kalam cosmological argument for the existence of God. It runs as follows:

(1) Everything that begins to exist has a cause of its existence.

(2) The universe began to exist.

(3) Therefore the universe had a cause of its existence.

The argument merely attests to the effect that if the condition is such that the world had a beginning, then it necessarily had a cause. If it were not the case that everything that begins to exist has a cause of its existence, then the argument does not work. Since most people intuitively grant (1) we have to question the second premise. How do we know the world began to exist? Scientific evidences such as the Doppler effect, the density of background microwave radiation, and others indicate that our world began from a finite or infinitesimally small point. But this is a contingent scientific discovery, since it could be the case that the universe is a cyclical universe, expanding and then collapsing back into a singularity at the end of each cycle, infinitely into the past. The evidence stands with empirical parity with both theories, though perhaps not epistemic parity. But there is another broadly logical necessity that is appealed to in the kalam argument. If it were the case that an actual infinite number of things or events is a logical impossibility then, since, if the world existed infinitely into the past, any present state of the world would complete an actually infinite number of moments, the world could not have existed infinitely. This argument looks like this:

(4) Argument based on the impossibility of an actual infinite:

(4.1) An actual infinite cannot exist.

(4.2) An infinite temporal regress of events is an actual infinite.

(4.3) Therefore, an infinite temporal regress of events is an actual infinite.

(5) Argument based on the impossibility of the formation of an actual infinite by successive addition:

(5.1) A collection formed by successive addition cannot be actually infinite.

(5.2) The temporal series of past events is a collection formed by successive addition.

(5.3) Therefore, the temporal series of past events cannot be actually infinite.

The logical consistency of transfinite mathematics makes us question whether our intuition can indicate that an actual infinite cannot logically exist. But the argument stands such that, if it were the case that an actual infinite number could not logically be formed, then the world necessarily had a beginning and then that beginning had an indeterminate cause.

The point is to show that broadly logical necessity could offer a reason to accept a realist hypothesis, if such an argument could be constructed. But since these types of arguments are dependent upon the proof of the truth of the premises, some of which are intuitive rather than logically necessary, and since they rely on deductive arguments, they are still too strict of a demand as an account of reasonable knowledge. As we will show in chapter 4, many of our regularly held beliefs are justified on much lower standards, yet are still considered rational.

We might then turn to scientific investigation itself to see if anything has been discovered that would lead us to think that our cognitive faculties are sufficient for the task of determining whether we perceive reality as it is, or merely as a function of the scope of our faculties, and therefore pragmatic. Since the major shift of the last hundred years or so in scientific understanding of cognitive functions is derived from biological evolution, this is where we shall begin our inquiry. Interestingly, Darwinian evolution might provide the largest defeater for the thesis that we actually perceive reality the way that it is. In fact, in order to hold a realist version of naturalism consistently, the naturalist must introduce some scientific evidence, in addition to evolution, that would support their realist claims.

2.7.3: Problem with Realism: Plantinga's Evolutionary Argument Against Naturalism One reason that naturalism might not be compatible with evolution concerns

evolution's scope of inquiry. At the end of his 1993 work defending a reliabilist epistemology, Alvin Plantinga offered what he calls the 'evolutionary argument against naturalism.'¹²⁸ Evolution proceeds by the mechanism of natural selection with the sole scope of protecting and populating individual organisms. If evolution increases human functioning only in the direction of survival and reproduction, there is no reason to think that truth, or correspondence with reality, has anything to do with our capacity for reason or investigation. In his famous explication of the argument, Alvin Plantinga quotes Patricia Churchland as an example of why natural selection has the potential to be problematic with regard to truth:

Boiled down to essentials, a nervous system enables the organism to succeed in the four F's: feeding, fleeing, fighting and reproducing. The principle chore of nervous systems is to get the body parts where they should be in order that the organism may survive....Improvements in sensorimotor control confer an evolutionary advantage: a fancier style of representing is advantageous so long as it is geared to the organism's way of life and enhances the organism's chances of survival [Churchland's emphasis]. Truth, whatever that is, definitely takes the hindmost.¹²⁹

Plantinga's argument goes as follows. For any statement of current evolutionary theory E, conjoined with the metaphysical naturalistic claim that only "natural objects, kinds and properties are real," N, then any subject S has a defeater for the proposition R,

¹²⁸ Plantinga, Warrant and Proper Function (Oxford: Oxford University Press, 1993b), ch. 12.

¹²⁹ Patricia Churchland, Journal of Philosophy 1987, p. 548, cited in Alvin Plantinga, Warrant and Proper Function, p. 218.

that "Human cognitive faculties are reliable," as well as many other rationally held beliefs.

(6) P(R/N&E) is either low or inscrutable.

(7) If S accepts N&E and (1), she has a rationality defeater for her belief in R.

(8) S has a defeater for all of her beliefs, one of which is N&E.¹³⁰

Notice that we do not have to be so restrictive as Plantinga's original account of naturalism, that it is an ontological statement. We might just as well detail any contemporary theory of naturalism, all of which adhere to contemporary science for all legitimate knowledge claims, of which evolutionary theory is a branch. Any substantive theses, such as ontological restrictions or causal definitions, that result from naturalism are merely by-products of the central belief in the all-sufficiency of science. This qualification prevents counter-arguments to the effect that Plantinga's argument does not affect all versions of naturalism.

Since no claims can be made to the effect that natural selection produces any development apart from increasing an organism's ability to survive and reproduce, leaving aside any evolutionary foul-ups that might have occurred of which we could have no knowledge, and since "truth claims" make up no specific part of survival and reproduction, as emphasized in Churchland's quote, then any theory of cognition based upon evolutionary development is entirely unfounded. And so if our cognitive faculties developed by evolution, we are lead to question our ability to cognize 'truths' at all. Jerry Fodor responds, "Talk about biting the hand that feeds you!"¹³¹

Even if it were possible to know the structure of natural selection, that it was tailored to its two specific goals, then it would not be possible, or rational, to make

¹³⁰ James Beilby, Naturalism Defeated? Essays on Plantinga's Evolutionary Argument Against Naturalism (Ithaca, NY: Cornell University Press, 2002) p. vii.

¹³¹ Jerry Fodor, "Is Science Biologically Possible?" in Naturalism Defeated? p. 31.

knowledge claims beyond the scope of survival and reproduction. In this case, evolution

would at least be at odds with scientific realism.

Defense of Naturalism: Ramsey's Evolutionary Argument Against Plantinga's Evolutionary Argument

William Ramsey responds to Plantinga by defending what he calls "evolutionary reliabilism," which is the thesis that "natural selection tends to favor reliable belief-producing mechanisms."¹³² Obviously, if his defense is successful, Plantinga's argument will not work. Ramsey begins by claiming that truth is a relational property between the content of a belief and a state of affairs. This qualification alone, he argues, makes it doubtful whether truth-values are relevant to adaptive behavior.

...a belief's truth-value does not supervene on the belief's intrinsic/neurophysiological properties; truthfulness can vary while the neurophysiological properties remain the same. Hence, a belief's truth value, though partly dependent upon what is going on inside the head, is not reducible to neurological matters.

However, while he notes that truth-values are irreducible to mental properties, Ramsey quickly points out that truth-values are certainly "causally salient" to adaptive behavior. Though truth-values take on a "non-supervenient" relation to "intrinsic physical features," in that they are not reducible to physical features, they are similar to other non-supervenient attributes such as camouflage, which is causally salient for adaptation. He argues that truth and reliability are exactly the needed causal structures for the success of adaptive behaviors.

Suppose we have ten creatures competing for a scarce resource such as food, and suppose that only one of the creatures (Bob) possesses accurate beliefs concerning the whereabouts of the food. If all we want is an explanation of Bob's immediate motor behavior, then we needn't appeal to the truth or falsehood of any of his beliefs. But if we want to know why Bob's behavior proves successful while his cohorts die out, then it clearly does matter that his behavior is generated by true beliefs.¹³³

Ramsey continues:

¹³² William Ramsey, "Naturalism Defended," in Naturalism Defeated? p. 16.
¹³³ Ibid., p. 18.

So the naturalist has a very plausible and compelling account of the relation between beliefs and behavior which makes truth (1) a causally relevant feature of beliefs and (2) causally relevant in a way that enhances reproductive fitness. ...[E]volutionary reliabilism claims that cognitive mechanisms come to be adaptive, in part, by generating desires that correspond with reproductive fitness (e.g., a desire to reproduce, a desire to stay alive, etc.) and accurate representations that enable the organism to get around and satisfy those desires. On this view, the truthfulness of our beliefs actually helps *explain* their adaptiveness. ¹³⁴

Ramsey is showing that even if our cognitive faculties are reliable in the narrow, pragmatic scope of avoiding predators and reproducing, then we are warranted in believing that our cognitive faculties are sufficient for whatever task to which we put them, or at least warranted in believing that they are reliable more-often-than-not. Plantinga attempted to preemptively deal with this issue, offering examples of erroneous beliefs that would still produce adaptive behaviors. It is not necessary to reproduce these examples, for I agree with Ramsey that they are merely specific instances of cognitive failure, with which no naturalist would disagree, and that in order to be convincing, Plantinga would need to produce systematic examples, whereon it would be the case that systematic reliability were implausible. Since it seems that Ramsey is correct in concluding that a creature would have to have cognitive faculties that were, at the very least, accurate more-often-than-not in order to make decisions that increase survival and reproduction, Plantinga's argument is in danger.

We might turn to a definition of truth and attempt to make the logical distinction between a 'true' belief and one that is 'useful' within the scope of a system designed for only two specific functions. But, as we have seen, such logical reductions are too strict a requirement on belief-forming structures. We must at least have the room to be warranted by certain evidence to make certain assumptions in given situations, where we have reason to believe these assumptions have proven accurate or useful or whatever, in the

¹³⁴ Ibid., pp. 18-19, emphasis his.

past, and still be considered rational. In this case we have to show that Ramsey's argument fails outright, in order to preserve Plantinga's initial claim. Ramsey's argument, schematized, would look something like:

(9) Beliefs can be causally relevant for behavior.
(10) Behavior must respond accurately to the environment more-often-than-not, to be adaptive.
(11) Therefore, beliefs, when they direct behavior, must be reliable more-often-than-not to be selected for.
(12) Therefore, natural selection must produce beliefs that are reliable more-often-than-not.

If this argument proves an adequate defeater of Plantinga's argument, then the naturalist is warranted in holding that most of her beliefs are reliable more often than not, and has a scientific justification for epistemic warrant. If there is a scientific justification for epistemic warrant, then the argument that naturalism is unjustified as analytic thesis will not be damaged in its entirety, since justification for its claims are what is at stake, and a realist thesis concerning science still may be unable to justify claims concerning all legitimate methods of inquiry. But justification for epistemic warrant for a realist view of science will certainly strengthen science's status as a basic belief for naturalism in chapter 4. As I made explicit in the section on empiricism, if a philosopher wishes to justify claims of science concerning the real world, as opposed to some constructivism, she must provide an adequate explanation. Richard Boyd actually adds this very thesis to his defense of realism:

(13) Suppose some principle of scientific methodology contributes to the reliability of that methodology in the following minimal sense: that its operation contributes to the likelihood that the observational consequences of the accepted scientific theories will be (at least approximately) true. Then it is the business of scientific epistemology to *explain* the reliability of that principle.¹³⁵

¹³⁵ Richard Boyd, "Realism, Underdetermination, and a Causal Theory of Evidence," *Nous*, 1973, p. 3, emphasis his.

Ramsey's argument seems to be an example of (13). The question is, can evolution explain the thesis that an animal X perceives the world accurately, or truthfully, given the conditions necessary for natural selection to take place?

Plantinga argues that the central concern of this argument is whether the content of the belief enters into the causal chain leading toward or away from adaptation. If the content does enter into the equation then we have a reason to think that adaptive behaviors are largely true. If they do not, then we have no idea whether 'truth' is being obtained or not. Plantinga explains:

Natural selection, of course, operates on *behavior* in a broad sense; it rewards behavior that enhanced fitness and punishes behavior that does not. Thus it shapes behavior in the direction of greater fitness. In so doing it also shapes the sorts of structures that *generate* behavior in the direction of greater fitness, greater adaptiveness. Now if content *did* enter the causal chain that leads to behavior—and if true belief caused adaptive behavior (and false belief maladaptive behavior)—then natural selection, by rewarding and punishing adaptive and maladaptive behavior respectively, could shape the mechanisms that produce belief in the direction of greater reliability. There could then be selection pressure for true belief and for reliable belief-producing mechanisms.¹³⁶

Ramsey's argument against Plantinga begins with the fact that it is not unreasonable to think that a non-supervenient trait (like belief states) could influence behavioral adaptation. The problem is obviously that we have no empirical idea as to whether and when the content of a belief enters into the selection process. On Ramsey's qualification, content is a non-supervenient factor in belief formation, but it is also irreducible to directly accessible physical structures such as neurophysiological properties, so that belief content does not directly figure into selection.

But under the hypothesis in question, the content of a belief, as opposed to its neurophysiological properties, does not enter into the causal chain leading to behavior. And then it is not the case that a belief produces adaptive behavior by way of being true, or maladaptive behavior by being false. So natural selection can't, directly, at any rate, mold belief-producing mechanisms in the direction of the production of reliability by rewarding adaptive behavior and penalizing maladaptive behavior.¹³⁷

¹³⁶ Plantinga, "Response to Ramsey," in Naturalism Defeated? p. 257, emphasis his.

¹³⁷ Ibid., pp. 257-58.

Whether belief content can be introduced into the selection process is certainly a philosophical question that the naturalist, in virtue of his strict commitment to the natural sciences as prior to philosophy must leave aside. But the argument does not end there. The naturalist may still claim that, given the argument that mostly false beliefs concerning the world of predators and mates could not reasonably prove effective for selection, then he is warranted in holding that natural selection produces truth-producing cognitive mechanisms more often than not.

This highlights the reason that the question of content is so important to the argument. A creature may not act on a belief at all; it may simply react to an environmental pressure without a belief concerning that pressure ever coming into play, just as with classical or operant conditioning. Here we must separate reliable belief-forming processes from truth-approximating belief-forming processes. If it just so happens that a creature was predisposed to moving a certain way when it perceived a threat (whether or not this perception is accurate), and this movement proved successful in avoiding certain attacks, then belief concerning a threat did not play a significant role in the species' survival. This merely pushes the question back. If and when an evolved creature forms beliefs, she does so on the basis of her perception. And for her beliefs to determine a course of action, those beliefs have to be in accord with a perception that has proven reliable for certain actions more often than not.

However, the concern for content comes into play when we question exactly for what it is that the perception is reliable. If the perception is merely reliable for increasing the organism's ability to find a suitable mate, the question of the perception's truth cannot enter the equation, at least not in a correspondence sense. If the perception is 'reliable' for avoiding predators, this does not equal reliable for indicating truth. The belief goes in, whatever it may be, the behavior comes out, and coherence is determined, but correspondence remains left out. As long as this connection remains unattended, there is no guarantee (1) that beliefs enter into selective equations, or (2) that beliefs, if they do enter in, are selected on the basis of their truth, as opposed to pragmatic reliability.

The separation of reliability from truth makes it plausible that Ramsey can be correct in claiming that we are warranted in holding evolutionary reliabilism while remaining consistent Plantinga's argument. Actually, this is not entirely correct. Plantinga's argument as formulated here only specifies reliability in general, and we may assume, *in toto*. But Plantinga specifically indicates that his concern is with reliable truth-approximating cognitive faculties. And it is easy to see the breadth of the difference. Therefore, Ramsey could identify our cognitive faculties as reliable for producing 'truth'-approximating beliefs, where 'truth' is defined in the narrow sense of 'reliable for a specific purpose,' that is *useful* for survival and reproduction. But he certainly cannot imply 'truth' in the wider scope of an faculty's producing true representational beliefs and then extrapolate the content of these beliefs to the wider environment. This is the explication of the point that Churchland was attempting to emphasize in the earlier quote.

William Hasker, an avid anti-naturalist, claims that Plantinga's attack on naturalism is unsuccessful.¹³⁸ He says that it offers what has been called a 'Skeptical Threat.' The Skeptical Threat argument attempts to show that a logical implication of a theory is that we can have no knowledge at all, and are thus left with skepticism. Hasker says that Skeptical Threat arguments are unconvincing primarily because of the "G. E.

¹³⁸ William Hasker, "What About a Sensible Naturalism? A Response to Victor Reppert," *Philosophia Christi*, Vol. 5, No. 1, 2003, pp. 53-62.
Moore Shift," which says, "If you present me with an elaborate argument which has as its conclusion that all of my faculties are unreliable and all of my beliefs are unjustified, I ask myself whether I am more certain that your argument is sound than I am than its conclusion is false."¹³⁹ This is probably the most gut-level explanation for most reactions to Plantinga's evolutionary argument against naturalism. But it should not really be that hard to swallow. Plantinga is not arguing that evolution is false. He is not arguing that we have no true knowledge about the world. He is not an anti-realist about science. He is merely arguing that within a purely scientific understanding of the world, which takes evolution as its base explanation of cognitive development, no claims of truth acquisition can be made. Something must be added to the scheme to make realism and truth-values available.

And so, without adding an additional component, which, given the state of current scientific theory, would have to be metaphysical, the naturalist has trouble combining a commitment to evolution and acceptance of realism. But one might say this is "true, but trivial," since we can have a 'useful' knowledge of our surroundings. The problem with such a statement is that we hold, in everyday usage, a higher weight to true statements, as opposed to merely useful ones. And we claim that a true statement is more legitimate, and deserving of credence, than a merely useful one.

Consider two brief examples. The first is from logic and the second is from evolutionary biology's explanation of altruism. When we say that a logical truth is necessarily true, we do not mean that its truth-value is a by-product of evolutionary development in the sense that it could have been otherwise, if conditions and natural selection had taken a different course. Rather, we say that it is true regardless of what

¹³⁹ Hasker, p. 60.

type of development even possibly occurs. Even our definition of what circumstances could possibly have arisen is grounded in our definition of what is logically possible, and therefore what necessarily could not have happened. Someone might object that logical statements themselves are trivial, and therefore the example fails to identify a significant development outside of evolution that would be relevant. But logical 'truisms' are the ground of all rational thought and discourse. Without them identity statement would be meaningless and we could not determine a contradiction from a necessity. We might try, along with a recent author,¹⁴⁰ to derive logical truths from the mechanism of evolution, by way of utilitarian economic models, but we would find ourselves trapped in a vicious circle applying necessary logical truths to models in order to determine the contingent truth of logical necessity. And there is no possible explanation as to why certain logical laws cannot be broken. This is certainly a throwback to the Millian project of determining logic empirically. But nothing empirical indicates to us the implication that no possible state of affairs could produce the consistency of a logical contradiction. So logical truths are a strangely defiant system that challenges the development of cognitive functions by way of natural selection.

Also, the concept of altruism is a constant problematic for evolutionary theory. In most cases altruism lessens the ability of an organism to survive, since it places the needs of another, which are specifically survival, food, and offspring, above his own. In determining when to sacrifice personal needs, we might say that the creature is employing some form of objective utilitarianism with an innate knowledge of teleological consequences that will turn out better in the long run. But this is merely

¹⁴⁰ Cf. William S. Cooper, *The Evolution of Reason: Logic As A Branch of Biology* (Cambridge: Cambridge University Press, 2004).

speculation. Basic evolutionary theory is a defeater for the rationality of altruistic behavior. The implications of this are so specific that evolutionary psychologist Herbert Simon claims that any behavior directed by beliefs or reactions associated with altruism are actually "bounded rationality," and exhibit a malfunction in evolutionary development.¹⁴¹

If we ask what makes someone like Mother Theresa act in the role that she did,

Simon's answer is the combination of "docility" and "bounded rationality":

Docile persons tend to learn and believe what they perceive others in the society want them to learn and believe. Thus the content of what is learned will not be fully screened for its contribution to personal fitness (p. 1666).

Because of bounded rationality, the docile individual will often be unable to distinguish socially prescribed behavior that contributes to fitness from altruistic behavior. In fact, docility will reduce the inclination to evaluate independently the contributions of behavior to fitness. By virtue of bounded rationality, the docile person cannot acquire the personally advantageous learning that provides the increment, d, of fitness without acquiring also the altruistic behaviors that cost the decrement, c. (p. 1667).

The problem is, of course, that we do not, on the whole, recognize Mother

Theresa's work as irrational or cognitively defective, even if we are not just being nice

because she is a "good person." We actually call her morally praiseworthy. Plantinga

explains the implications of Simon's theory:

The idea is that a Mother Teresa or a Thomas Aquinas displays bounded rationality; they are unable to distinguish socially prescribed behavior that contributes to fitness from altruistic behavior (socially prescribed behavior which does not). As a result, they fail to acquire the personally advantageous learning that provides that increment d of fitness without, sadly enough, suffering that decrement c exacted by altruistic behavior. They acquiesce unthinkingly in what society tells them is the right way to behave; and they aren't quite up to making their own independent evaluation of the likely bearing of such behavior on the fate of their genes. If they *did* make such an independent evaluation (and were rational enough to avoid silly mistakes) they would presumably see that this sort of behavior does not contribute to personal fitness, drop it like a hot potato, and get right to work on their expected number of progeny.¹⁴²

¹⁴¹ Herbert Simon, "A Mechanism for Social Selection and Successful Altruism," *Science* 250 (December, 1990) pp. 1665ff.

¹⁴² Alvin Plantinga, "Methodological Naturalism, Pt.1," Origins & Design, 18:1, May 1997, p. 3.

The implications are actually quite far fetched. If we decided to alter our perspective and become the most efficient Darwinian we could be we would regard any behavior that did not act in an efficiently naturally selective manner as irrational and encourage people to alter their behavior, even if their cognitive faculties convinced them of something different. We would decry homosexuality, altruism, charity, voluntary military service, and many others as cognitively deficient, bounded rationality and encourage people to maximize their evolutionary potential. This is not to say that there could not be long range, objectively utilitarian outcomes from these behaviors, but that, for the most part, they would be localized and not widely acceptable as rational.

Let me review why this argument is important for our project as a whole. If it were the case that scientific findings could substantiate a realist perspective on the world, then a naturalist would be warranied in holding realism concerning natural objects. But if science could not substantiate such a perspective, then naturalism would not be tied to realism in any way significant enough to warrant the rejection of naturalism. The naturalist, upon finding no sufficient warrant for a realist perspective among scientific theories, could simply continue her strict adherence to science as the only legitimate method of knowledge, but claim a much narrower, or more restricted, definition for what is considered, non-classically, knowledge, or at least, contemporary scientific knowledge. However, since the majority of naturalists desire a realist justification for what they perceive as the effects of the scientific program, a defeater for naturalistic realism is a significant, if not damning, threat. Plantinga's argument is a threat of that nature since, if correct, the naturalist has a defeater for the truth-values of all beliefs, especially those concerning relations among objects within the world.

2.8: Naturalism and Theism

2.8.1: Intro

Many popular and academic works of philosophy claim that a major tenet of naturalism involves an explicit rejection of God, especially Christian theism. However, there are those who accept the possibility that theism and naturalism are compatible. While it is true that most philosophers do not accept theism and some even state that their naturalism precludes the existence of God, the central issue that seems to unite naturalists concerning religion is not the postulate of a God specifically, but the rejection of supernatural causation. The reason many Christian philosophers think of naturalism as an explicit rejection of God is that their theism is tied to the notion that God interacts in the physical world.

Sterling Lamprecht, in his *Metaphysics of Naturalism*,¹⁴³ describes a theory whereon religion and naturalism are compatible. But upon reading his description, one quickly realizes that it absolutely precludes any supernatural beings from enacting physical effects from some concept of nonphysical causation. Clearly many theists will be turned off by such a notion, and will continue to characterize naturalism as strictly atheistic. It should be noted, however, that naturalism does not strictly preclude 'supernaturalism' in the sense of the existence of a god. It merely states that even if there are such realities, they are unknowable by any legitimate methods; they do not act causally in the physical realm, and are therefore irrelevant to any serious inquiry into the world.

Michael Ruse, a naturalist and non-Christian, attempts to bring naturalism within the purview of religion by qualifying certain claims of both parties. In his book, *Can a*

¹⁴³ Sterling Lamprecht, The Metaphysics of Naturalism, chapter 12.

Darwinian Be a Christian?,¹⁴⁴ Ruse attempts to show the ways in which Christians and evolutionists 'talk past' each other, because of a misunderstanding of the issues. There is nothing specific within evolution that denies the tenets of classical Christianity. The only thing that a Christian might have to release is a literal reading of Genesis chapters 1 and 2. Several Christian philosophers, including notoriously Richard Swinburne,¹⁴⁵ find no discontinuity between evolution and miracles, making the specific question of evolution and Christianity irrelevant. But where Christianity and science conflict, Ruse rightly points out, is on the question of nonphysical interactionism. The reason Christianity and evolution can feasibly get along is that everything that has been specified as religious in nature could have been "programmed" into the created "system" with no need for miracles. This does not constitute an apologetic for Christianity but Ruse thinks it gives the Christian a reasonable position that is continuous with the best available science.

C. S. Lewis, in the 1940s, adeptly picks up on this subtle element. He claims that naturalists are philosophers who claim that, "nothing exists except Nature," roughly reducing naturalism to physicalism. Since it is physicalism that constitutes the rejection of nonphysical causation for the causation 'given' in nature, he takes careful steps to define "Nature":

In all the examples Nature means what happens 'of itself' or 'of its own accord': what you do not need to labour for; what you will get if you take no measures to stop it. The Greek word for Nature (Physis) is connected with the Greek verb for 'to grow'; Latin *Natura*, with the verb 'to be born'. The Natural is what springs up, or comes forth, or arrives, or goes on, *of its own accord*: the given, what is there already: the spontaneous, the unintended, the unsolicited.

What the Naturalist believes is that the ultimate Fact, the thing you can't go behind, is a vast process in space and time which is going on of its own accord.¹⁴⁶

¹⁴⁴ Michael Ruse, Can a Darwinian Be a Christian? (New York: Oxford University Press:).

¹⁴⁵ cf. almost any work by Swinburne, Peter Forrest, or Howard J. Van Til.

¹⁴⁶ C. S. Lewis, Miracles, p. 7-8, italics his.

With this depiction of a major tenet of contemporary naturalism, Lewis can explain the relationship of theism and naturalism that follows from it:

The difference between Naturalism and Supernaturalism is not exactly the same as the difference between belief in a God and disbelief. Naturalism, without ceasing to be itself, could admit a certain kind of God. The great interlocking event called Nature might be such as to produce at some stage a great cosmic consciousness, an indwelling 'God' arising from the whole process as human mind arises (according to the Naturalists) from human organisms. A Naturalist would not object to that sort of God. The reason is this. Such a God would not stand outside Nature or the total system, would not be existing 'on his own'.¹⁴⁷

The main point that Lewis is making is that there is no necessary incompatibility of theism and naturalism, as long as you hold to a god or other religious objects that are part of the natural order of things. It must be something not causally separated from the natural processes with which we are familiar. Lewis's God does not fit this description and he goes on to defend the coherence of miracles as the introduction of events into a created system of an unimpeachable lawful structure that acts upon whatever is introduced into it but cannot explain the circumstances of the introduction. Such a God, it seems, all naturalists must reject.

2.8.2: Naturalism and Theism in Contemporary Use

It is important for a robust critique of naturalism to understand that naturalism does not preclude theism absolutely, but it does preclude any supernatural interference in what is termed the 'causally closed' system of the natural universe. Therefore, any theism that is necessarily linked to claims of miraculous intervention is indeed excluded from naturalism.

It should also be noted that even some of those who reject certain tenets of naturalism and seemingly fall outside the scope of naturalism are not necessarily supernaturalists. There is at least one other option, though it is not entirely clear that it is

¹⁴⁷ Ibid., p. 11.

coherent. Some philosophers, such as Frederick Olafson claim that the natural sciences cannot account for the 'presence' involved in perception.¹⁴⁸ He extends his notion of presence to an explanation of the role linguistic structures play in the system of inquiry. For Olafson, phenomenological experience that includes 'presence' is undetectable by scientific theories, since science, he says, can only detect objects and not states of affairs. If this is the case, then science cannot determine the reason for the truth-value of the relation of two empirical objects, and cannot, therefore, be a realist program in any logically possible sense. Whether Olafson's position is coherent, he certainly falls outside of the naturalist camp. He describes himself as holding a 'natural attitude' exemplified by nontheistic philosophers before the 19th century. This is not a dualist position, but arguably not a materialist theory either, given his acceptance of entities not detectable by science. But he does hold that all entities are available to us within the world phenomenologically, though not scientifically. Whereas not all antinaturalist positions are theistic, they are not completely devoid of naturalistic tendencies either. But, for the most part, within Anglo-American philosophy, if a position is scientifically based, whether naturalist or not, it tends to be atheistic.

An interesting phenomenon of this discussion is the way in which some theists hold their theism as compatible with science. Peter Forrest, for example, claims that he is a theist who defends a personal deity who cares for his creation, but at the same time he holds that his view is neither naturalistic nor supernaturalistic. He claims that, as he construes them, naturalism and supernaturalism are not contradictories but merely contraries and that anti-supernaturalism is really the contradictory of supernaturalism. But consider the way he construes the terms of the debate.

¹⁴⁸ Olafson, Naturalism and the Human Condition, ch. 3.

For every research program, there exist criteria for determining what counts for evidence and how that evidence counts as explanation. Forrest says that, "The idea for naturalists is to provide explanations that satisfy two constraints: (i) no entities are posited unless well-confirmed scientific theories provide a *precedent* for them; and (ii) no well-confirmed law of nature is violated."¹⁴⁹ Now, contrast this with his criteria for supernaturalists and anti-supernaturalists, respectively (using my own numbering):

Supernaturalists... resort, in their explanations, to either or both of (iii) entities for which nether the familiar entities around us nor those mentioned in the natural sciences establish a precedent; and (iv) violations of laws of nature.

[For anti-supernaturalists:] ...all explanations [are] in terms of entities that (v) have a precedent in either the ones we are familiar with or the novel kinds posited by the sciences; and

(vi) operate without violating the laws of nature that scientists have discovered.¹⁵⁰

On these criteria alone, it seems absurd not to consider Forrest a naturalist. The definitions of (i) and (ii) are almost identical to those of (v) and (vi), except for the caveat "or the novel kinds posited by the sciences" which we seem to have no reason to doubt the non-reductive naturalist would accept wholeheartedly. Forrest expresses doubt, legitimately I think, that Christianity is compatible with this view, but maintains that this is the absolute starting place for a rational theism. The question here, then, is what type of

God is compatible with naturalistic theism? Forrest says that the,

...theocentric understanding of things...requires a God who is personal and who also has sufficient power to create the physical universe with the characteristics it has. Again, God must have sufficient knowledge to create. Beyond saying that God is personal, sufficiently powerful, and sufficiently knowing, I have little need to specify the divine characteristics. Thus I am not committed to the classical doctrines of the necessity, eternity, and simplicity of God.¹⁵¹

The interesting thing is that, for Forrest, after the structure of the universe is

designed, it is unclear that this God can be 'caring' in the way that he wants, without a

¹⁵⁰ Ibid., p. 3.

¹⁴⁹ Peter Forrest, *God Without the Supernatural* (Ithaca, NY: Cornell University Press, 1996) p. 3, emphasis his.

¹⁵¹ Ibid., p. 9.

predetermined sort of caring, 'built-in' to the system through evolution. But this means that, though God is personal, he is personally innocuous after the creation of the world. Apart from justifying the existence of a God, the question that concerns us is, why try to justify a God that is necessarily innocuous? In Forrest's account we have a unique version of deism that translates into a contemporary epistemological naturalism, which says that science is neutral with regard to the existence of God and that God is not introduced into the discovering of phenomena but that he might be introduced as a kind of unmoved mover to get the whole thing off the ground. The obvious implication is the paucity of interaction between this God and humanity. There is necessarily no prayer (supplication or intercessory), no healing (no miracles of any kind), no revelation (or inspiration or divine commands), not really much of anything 'religious' outside of a kind of humanistic-everything-happens-for-the-best optimism. Although Forrest does seem to hold some version of a resurrection, how this or its necessity is made known to him is unclear, and without a Christ-figure to justify or necessitate it, the situation looks less than hopeful.

The reason Forrest posits such a God becomes clear as he continues. He says that, while science can provide all the answers to how the universe works and what exists within it, thereby eliminating a god-of-the-gaps theology, it is unable to answer questions of *value* or satisfy the curiosity of uniquely *rational* capacities. God allows the introduction of value and rationality, through the fact that his existence would have to be necessary and the standards of his character absolute. This guarantees a moral realism and the human capacity to grasp it. Therefore, *that* God exists is enough to establish

112

everything he wants to establish. Interestingly, this sounds very much like the 'religious naturalism' I will examine in the next chapter.

It is clear that Forrest's aim is to make theism approachable for those who have a strong belief in natural science and hold a theory of truth for which science is the best indicator. But far from justifying antisupernaturalism against supernatural occurrences, Forrest sets up conditions for the understanding that a miracle *has* taken place. Let me explain.

Many arguments against miracles take the form of causal closure arguments, as explained in the section on physicalism. In addition, some naturalists claim that the following insights add warrant to the belief against miracles:¹⁵²

(vii) You have to begin from what you know.

(viii) There are no identifiable things outside natural things.

(ix) There are no identifiable forces outside natural forces.

(x) If we feel there are things in the universe like 'grace' or 'createdness,' then they must be revealed rather than discovered.

Without getting into the details of presuppositions concerning what it is to "know" or how, and disregarding the attempt to define "identifiable," we will merely accept them as they are traditionally considered within moderate empiricism and accept them as possessing some sort of relevantly determined notions. Many would question (viii), given that 'religious experience' is a type of experience that has the property of revealing something to exist outside natural things. But for now we may allow the naturalist stipulation to apply. We cannot say all 'detectable' things since that would leave out some normal scientific entities, and we cannot say 'experiencable' things, since that would place us back in the last sentence. The reason that Forrest's conception, and

¹⁵² Thanks to Albert Borgmann of the University of Montana for pointing these out.

any naturalist's conception of physicalism for that matter, gives us the conditions for understanding a miracle, are the same as they give for their description of natural laws. We first have to have a grasp of regularity and law-like behavior of a system before we are even able to detect an anomaly. Richard Dawkins writes that, "If a marble statue of the Virgin Mary suddenly waved its hand at us we should treat it as a miracle, because all our experience and knowledge tells us that marble doesn't behave like that."¹⁵³ An anomaly, of course, without context, is absolutely uninterpretable. Dawkins goes on to say that the coincidence of his saying, 'May I be struck by lightning' and the occurrence of being struck by lightning would be considered a miracle. "The only thing miraculous about my hypothetical story is the coincidence between my being struck by lightning and my verbal invocation of the disaster."¹⁵⁴ So what Forrest does, and what every naturalist does inadvertently, is provide the necessary conditions on which their naturalism can be overturned, and a normal common-sense, even scientific process for determining the truth of the matter, if a miracle is suspected. C. S. Lewis gives a lively analogy to this situation in a short article called "Religion and Science." When speaking to a friend Lewis asked,

'Suppose you put sixpence into a drawer today, and sixpence into the same drawer tomorrow. Do the laws of arithmetic make it certain that you'll find a shilling's worth the day after?'

'Of course,' said he, 'provided no one's been tampering with your drawer.'

'Ah, but that's the whole point,' said I. 'The laws of arithmetic can tell you what you'll find, with absolute certainty, provided that there's no interference. If a thief has been at the drawer of course you'll get a different result. But the thief won't have broken the laws of arithmetic-only the laws of England.'155

It should be clear by now that naturalism is not reducible to, or identifiable with,

atheism. Neither does naturalism give direct support to atheism. On the contrary, a

¹⁵³ Richard Dawkins, The Blind Watchmaker (New York: Norton, 1986) p. 159, emphasis mine. ¹⁵⁴ Ibid.

¹⁵⁵ C. S. Lewis, "Religion and Science," in God in the Dock (Grand Rapids, MI: Eerdmans, 1970) p. 73.

naturalistic understanding of the world provides all the conditions necessary for the possibility of naturalism's falsity. This accords with the open-ended nature of scientific progress and the naturalist's willingness to follow science wherever it may lead. The question that will arise in chapter 5 is whether there are any good reasons to reject naturalism based on the evidence from science itself.

2.8.3: Conclusion to Chapter 2

If naturalism were reducible to any position it would most likely be scientismwhich claims that, "on the one hand, the goals of scientific inquiry include the discovery of objective empirical truths; and, on the other hand, that science has come pretty close to achieving this goal at least from time to time."¹⁵⁶ This allows it to be consistent with its adherence to science as a successful method of inquiry while preventing it from falling by the way if science ever discovers anything contrary to one of the above positions covered in this chapter. But even this would not be Science-unified, whole, complete-since it is not data or methods that tell us anything about our world, but scientists. Therefore, the scientific worldview in question would be more scientism than science. The question would then be: on what grounds is science justified in telling us the truth of reality, and how far does this justification go toward supporting a worldview? Specifically does it go toward supporting naturalism's central claim that science is the only legitimate method of inquiry? Over the next two chapters I will examine some major formulations of naturalism and argue that naturalism cannot survive characterization as a philosophical thesis.

¹⁵⁶ Jerry Fodor, "Is Science Biologically Possible?" in Bielby, ed., Naturalism Defeated?, p. 30.

If necessities of thought force us to allow any one thing any degree of independence from the Total System—if any one thing makes good a claim to be on its own, to be something more than an expression of the character of Nature as a whole—then we have abandoned Naturalism.

(C. S. Lewis, Miracles, 1947)

Chapter 3: Contemporary Characterizations of Naturalism

3.1: Varieties of Naturalism

I will construe 'strict analytic thesis' to mean any theory defined primarily in terms of a deductive or narrowly inductive argument intended to justify it. By narrowly inductive I mean an argument consisting of a type of evidence that is widely accepted construed in such a way that offers probabilistic support to a conclusion based on that evidence. Narrow induction is closer than broad epistemic warrant to what scientists use in inferring results from empirical data. An analytic thesis is consistent only if its basic tenets and the implications that follow from them do not conflict with one another or with the justification of the thesis itself. Such a thesis is viable just in case it is not trivial, that is, if it offers something useful or significant to philosophical or scientific understanding or methodology. Naturalism faces a problem if construed as such a thesis because it relies upon the findings and methods of science and not a foundation that could not be overturned by science. Michael Rea explains:

As I see it, the problem lies in the fact that (a) those who call themselves naturalists are united at least in part by methodological dispositions that preclude allegiance to views that cannot be called into question by further developments in science, but (b) no one seems to think that developments in science could force someone to reject naturalism.¹⁵⁷

The problem here is that the conjunction of (a) and (b) seems to be a contradiction. If naturalists cannot hold views that cannot be called into question by science, yet naturalism cannot be called into question by science, then a philosopher cannot hold naturalism. But it does not seem that contemporary naturalists necessarily

¹⁵⁷ Michael Rea, World Without Design, p. 52.

hold (b). Just as naturalists regard physicalism as contingent based on the findings of science, it seems they hold that naturalism could as well. The only time a naturalist would have a problem with this contradiction is if she claimed that her naturalistic position was justified by the hypothetically completed natural sciences, implying that there is at least one philosophical position guaranteed by science, which science can never overturn. In this case she would be making a universal claim about the scope of science, which few scientists are willing to do. But more reasonable naturalists do not have a problem claiming that contemporary science *warrants* the belief that science is the only legitimate method of inquiry. Though circular, the claim is self-defeating only if the naturalist cannot provide a scientific reason for allowing only the knowledge claims of science to be considered legitimate. If the naturalist claims to be broadly inductively warranted in the assertion, rather than narrowly inductively warranted, then plausibility goes up.

The naturalist needs to show that science warrants belief in its own absolute epistemological efficacy. Because naturalists must own up to some sort of justification in order to compel rational assent they face a dilemma: (1) Accept the consequences of a thesis that might be unwarranted (either broadly or narrowly) by science, by appealing to science, or (2) concede that naturalism itself is contingent upon the findings of science. If a naturalist cannot justify his claims on a scientific finding or method, then (1) is selfdefeating. Nothing scientific would substantiate naturalists' claim. (2) seems to be just what the naturalist wants but is relatively innocuous, since it is tautologous with the process of science. But many philosophical positions accept the process of science, even those contrary to naturalism. This means that (2) would not be an option that is identifiably naturalism.

117

Naturalism holds the scientific method in the highest regard and it seems ridiculous to think that science could overthrow adherence to naturalism without also overthrowing itself.¹⁵⁸ The problem hides in the nature of the naturalist's claims. If the central claim (that science is the only legitimate method of obtaining knowledge) is unjustifiable by any known scientific method, finding, or reasoning, then naturalism is devoid of support as a thesis. If the claims are a recapitulation of the success of scientific methods, then naturalists are merely philosophers making claims consistent with scientific findings. In this case the naturalist is not exemplifying tendencies different from positions contrary to naturalism, thereby gutting naturalism of viability. In a strict sense, if the naturalist were merely recapitulating the claims and methods of science, and making claims that these then led to belief in naturalism, then the naturalist would have to define the epistemic value of science to a degree commonly rejected in contemporary epistemology. This would, of course, place science in the uneasy guise of epistemic authoritarian, subject to overthrow with new epistemic data. But since part of the success of the methods and findings of science is that they can never overthrow the methods and findings of science, then naturalism, construed this way, is vacuous. It just means the same thing as the process of scientific inquiry, and therefore cannot justify normative claims concerning the sufficiency of science for epistemic roles. These are the only two options that I see are available to a philosopher with naturalistic tendencies. The question that will be asked at the end of this chapter and in the next is whether the naturalist is warranted in a significant way in holding science as the only legitimate source of knowledge.

¹⁵⁸ Michael Rea, p. 52.

Naturalism has been given more than a dozen qualifiers in order to make it an intelligible position or goal: global, local, strong, weak, linguistic, conceptual, scientific, dialectic, theological; not to mention the six that I will identify. Sometimes these qualifications have been stacked on top of one another, as in "methodological epistemological naturalism." And as if the sheer number of qualifiers wasn't enough to confuse the best in the field, the terms themselves are not consistent from one philosopher to the next. What Alvin Plantinga calls 'ontolgical naturalism' is arguably not specifically naturalistic, since he claims that it only refers to 'provisional atheism' or 'materialism.' Robert Pennock claims that when Philip Johnson uses the term 'scientific naturalism,' he is "really" referring to 'methodological naturalism.' In spite of all of this, we are able to get the gist of what is going on so long as philosophers clarify their terms. Sometimes they do, sometimes they do not. And it would be nice if they were consistent, but hey, it is hard to stand out if you just follow the leader.

When construed as an analytic thesis, naturalism can typically be characterized in one of three ways: metaphysical or ontological naturalism, epistemological naturalism, or methodological naturalism. In addition to these three, three others have gained attention in the recent literature. Though these three typically arise out of one or more of the first three, their controversies take on a character of their own. These include evolutionary naturalism, religious naturalism, and ethical naturalism. They are peripheral to the concern of the justification for naturalism central to this work. However, many times the issues in one of these three are misrepresented as the central issue for naturalism or its justification. For this reason I will give a brief exposition of each and explain how they, while useful in their own right, are blind alleys for providing naturalism the warrant it needs as a substantive thesis.

3.2: Evolutionary Naturalism

Evolutionary naturalism can be described as naturalism with the addition of Darwinism as a central thesis or disposition. Evolutionary naturalism can take the form of ontological, epistemological, or methodological naturalism depending on the role that Darwinism plays in each individual theory. Typically Darwinism will take the place of or be attached to the central tool or method of inquiry in individual positions. For example, in Rosenberg's naturalism, which I take to be a project denoting an evolutionary ontology, Darwinism and scientism are central presuppositions of the project of science and therefore predetermine which entities actually exist to be investigated. For Michael Ruse the situation is somewhat different. On his "methodological naturalism"-that is, a position intending to limit all modes of explanation to scientific ones-evolution is a central scientific thesis open to the progressive posture of scientific inquiry as dialectic between data and the best-respected theories of explanation, which, for Ruse, constitute a presupposition of the only legitimate methods of inquiry. Both Rosenberg and Ruse hold presuppositions as to the nature of inquiry, but they differ in where the emphasis of inquiry is placed in their respective theories. Rosenberg's emphasis is on a predetermined (by appeal to evolution) guiding ontology; Ruse's is on pre-determined (by appeal to evolution) guiding methods of explanation. The difference between them will become more apparent as we progress.

To begin, Rosenberg's versions of naturalism takes the three methodological dispositions we have defined—(i) strict adherence to authority of science, (ii) causal

closure of the physical world, and (iii) rejection of *a priori* insight—and augments them with Darwinian insights. This is his schema for what constitutes a naturalistic position:

1. The repudiation of 'first philosophy'. Epistemology is not to be treated as a propaedeutic to the acquisition of further knowledge.

2. Scientism. The sciences—from physics to psychology and even occasionally sociology, their methods and findings—are to be the guide to epistemology and metaphysics.

3. Darwinism. To a large extent Darwinian theory is to be both the model of scientific theorizing and the guide to philosophical theory because it maximally combines relevance to human affairs and well-foundedness.

4. Progressivity. Arguments from the history or sociology of science to the nonrationality, or non cumulativity, or non-progressive character of science, are all either unsound and/or invalid.¹⁵⁹

(4), Rosenberg says, is specifically an element for philosophers of science. It is unclear exactly what he means by this and he does not elaborate. But (4) has little relevance for us, since our concern is finding warrant for naturalism rather than questioning the efficacy of science. An immediate concern arises, specifically over number three. If we follow Rosenberg, what's a theorist to say about evolution—for or against? If Darwinism is *the* model and guide to which scientific theorizing is subject, while yet Darwinism is a discovery of science and subject to the falsification of science, there is a serious circularity problem. It is never enough to simply appeal to 'Science,' we need to know why *only this* finding, why *only these* methods. This is especially the case here, since Darwinism is typically accepted as a scientific finding. But Rosenberg apparently wants to forget justification for Darwinism and introduce *it* as the justification of Darwinism, but this does not seem to bother him. He practically admits as much:

...many contemporary naturalists have become hedgehogs [from Isaiah Berlin's simile]. They have concluded that there is one big thing that makes almost everything else coherent. They share a Darwinian approach to philosophical theory so thoroughly that it would be easy to synthesize their views into a traditional philosophical system.¹⁶⁰

¹⁵⁹ Rosenberg,, "A Field Guide...," p. 2.

¹⁶⁰ Ibid., p. 3.

If naturalism is to replace a priori first philosophy with scientific theory, then at least for the present the theory in question will be Darwin's. ¹⁶¹

The problem here is that Rosenberg has turned Darwinism, which is a corrigible scientific finding, into an analytic thesis. He concedes that Darwinism could be proven incorrect by further science in his qualification "at least for the present," and consequently that he would follow science over Darwinism. However, since he has introduced Darwinism as a statement within his naturalism, his naturalism is contingent upon the findings of science, but since the findings of science can never overturn the findings of science, then his thesis is vacuous.

Rosenberg could object that, Darwinism has proven itself in that it has given us a great deal of explanatory power in scientific theorizing, and that we are warranted in the conclusions drawn from it, including the existence of only physical things. He might go so far as to say that no other method of obtaining knowledge has room to compete. But at the same time, he must acknowledge that he is still unable to *disprove* the intuitionist's claim that there are necessarily modal properties of material objects or that there must be a set of all sets. This is because the scope of the evidence that he considers valid is restricted to the sciences. An acknowledgment of this would reduce Rosenberg's naturalism into a worldview rather than an analytic thesis. But I do not find that he has made such a concession. We will consider Michael Ruse's position in further detail in the later section on methodological naturalism.

Some Darwinists have turned their affection for evolution into reification. In Philip Johnson's famous book Darwin on Trial, Johnson quotes paleontologist Pierre Teilhard de Chardin as saying the following concerning evolution:

¹⁶¹ Ibid., p. 4.

Is evolution a theory, a system, or a hypothesis? It is much more—it is a general postulate to which all theories, all hypotheses, all systems must henceforth bow and which they must satisfy in order to be thinkable and true. Evolution is a light which illuminates all facts, a trajectory which all lines of thought must follow—this is what evolution is.¹⁶²

Teilhard has apparently turned evolution into an analytic-thesis-cum-naturalisticcult. Interestingly, some have claimed that Teilhard's Darwinian 'religion' pushed him to falsify evidence in favor of evolution in his supposed discovery of Piltdown Man. In fact, fellow naturalists Steven Jay Gould and Louis Leakey were among his prominent accusers.¹⁶³ This leads us to our second version of naturalism.

3.3: Religious Naturalism

3.3.1: Fideistic Naturalism

Of recent interest, naturalists have been accused of holding merely a "religious"type fervor, based on their reification of scientific methodology. If this were merely an accusation I would not even raise the issue. However, it seems that there are philosophers and scientists who exemplify this position and, though it is philosophically devoid of content, it should be mentioned for contextual purposes. There are actually two versions of what I will call it *a priori* or religious naturalism. The first is that which was just mentioned—the radical, universal nod to the sciences as the 'be all, end all' answer to every human question. Statements of this kind are usually reactionary and made in lessthan-academic contexts, even if they are sometimes made within an academic report, or by an academician. The second version of religious naturalism is actually a legitimate form of philosophical naturalism, but less known and less controversial than the first. It argues that scientific research does not have to produce a product entirely devoid of meaning and awe, but can inspire practically 'religious' feelings in response to its

¹⁶² Philip Johnson, *Darwin on Trial* (Downers Grove, IL: InterVarsity Press, 1993) p. 132, and cf. Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: HarperCollins, 1959).

¹⁶³ Johnson, Darwin on Trial, p. 203.

accomplishments and the intricacy of the world. It is intended to be religion without a personal deity that makes claims consistent with natural selection. It also attempts to explain the psychological tendencies of religions that do posit deities.

The first version of religious naturalism might just be the guttural reactions of intelligent people who are, no doubt, entitled to their own opinions, but who are upset over some supposedly anti-scientific affront to their life's work or worldview. My examination of this version of naturalism is merely a warning signal for the type of responses that are not legitimate expressions of academic positions, but which are nonetheless made by academics.

In his book, *Darwin on Trial*, Philip Johnson quotes William Provine as expressing a kind of religious naturalism based on evolution:

Modern science directly implies that the world is organized strictly in accordance with mechanistic principles. There are no purposive principles whatsoever in nature. There are no gods and no designing forces that are rationally detectable...

Second, modern science directly implies that there are no inherent moral or ethical laws, no absolute guiding principles for human society.

Third, human beings are marvelously complex machines. The individual human becomes an ethical person by means of two primary mechanisms: heredity and environmental influences. That is all there is.

Fourth, free will as it is traditionally conceived—the freedom to make uncoerced and unpredictable choices among alternative possible courses of action simply does not exist...There is no way that the evolutionary process as currently conceived can produce a being that is truly free to make choices.¹⁶⁴

Provine has obviously made statements that many scientists, even those not sympathetic to religious belief, would find disturbing. For one, he makes broad, universal claims about every entity that exits, which is unjustifiable scientifically. Second, he claims that ethical laws are either non-existent or by-products of development, which certain ethical naturalists might deny on evolutionary terms. And third, he makes absolutist statements concerning free will, which no branch of science has come to the

¹⁶⁴ William Provine, "Evolution and the Foundation of Ethics," *MBL Science*, Vol. 3, No. 1, 1987?, pp. 25-29.

plate to proclaim and which, according to some evolutionary theorists, is quite compatible with the free choice of an organism, at least compatibilistically. My point is not to directly contradict Provine, but to show that his view is certainly not uncontroversial within the field of science, much less philosophically, even among fellow naturalists. Statements like there are merely emotive fluff.

Another explicitly unscientific statement comes from Harvard biologist Richard Lewontin in the New York Review of Books:

We take the side of science *in spite of* the patent absurdity of some of its constructs, *in spite of* its failure to fulfill many of its extravagant promises of health and life, *in spite of* the tolerance of the scientific community for unsubstantiated just-so stories, because we have a prior commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our *a priori* adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated. [original emphasis]¹⁶⁵

This is arguably not a naturalist statement. Lewontin is claiming a strict adherence to something like science, but he is admitting a prior philosophical commitment to materialism. A seasoned naturalist might have turned the statement around and claimed these radical beliefs for materialism because of the compelling nature of science. However, it is odd that he should claim *a priori* adherence to "material causes" and their ability to "create." I assume he meant this to be no more academically respectable than the position he is defending against, but the language is philosophically muddled. Fideism is unrespectable in all academic circles, and even more so in branches of science. The point is, again, to warn against naturalistic—if we may call it naturalistic—rhetoric and emotivism.

¹⁶⁵ Richard Lewontin, *The New York Review of Books*, emphasis his, cited in William Dembski's, "Who's Got the Magic?" in Robert T. Pennock, ed.'s, *Intelligent Design Creationism and Its Critics* (Cambridge: MIT Press, 2001) p. 643.

Alvin Plantinga cites a myriad of philosophers who speak unscientifically about

the world or what science can tell us about the world. Two hold special interest for us:

George Gaylord Simpson:

Although many details remain to be worked out, it is already evident that all the objective phenomena of the history of life can be explained by purely naturalistic or, in a proper sense of the sometimes abused word, materialistic factors. They are readily explicable on the basis of differential reproduction in populations (the main factor in the modern conception of natural selection) and of the mainly random interplay of the known processes of heredity. ...Man is the result of a purposeless and natural process that did not have him in mind.¹⁶⁶

Richard Dawkins:

All appearances to the contrary, the only watchmaker in nature is the blind forces of physics, albeit deployed in a very special way. A true watchmaker has foresight: he designs his cogs and springs, and plans their interconnections, with a future purpose in his mind's eye. Natural selection, the blind, unconscious automatic process which Darwin discovered, and which we now know is the explanation for the existence and apparently purposeful form of all life, has no purpose in mind. It has no mind and no mind's eye. It does not plan for the future. It has no vision, no foresight, no sight at all. If it can be said to play the role of watchmaker in nature, it is the blind watchmaker.¹⁶⁷

Plantinga responds appropriately with:

...we might say that strictly speaking, when these people make such declarations, they are neither speaking as scientists nor doing science. They are instead commenting on science, drawing conclusions from scientific results--conclusions that don't follow from the scientific results themselves, requiring extra and extra-scientific (perhaps philosophical) premises. Perhaps this is true, although it has become increasingly difficult to draw a sharp line between sciencé and such other activities as philosophical reflection on science.¹⁶⁸

Scientists and explicators thereof, hold a special place in the hearts of lay people.

They bring science down to the masses. They explain the whys and wherefores of medicinal and astronomical feats of genius in bite-size, PBS chunks. We respect these people for their diligence to learn and discover, and their ability to teach and inform, as well we should. But with this responsibility must come some tact. A scientist speaking unscientifically is still a scientist sounding scientific, even if a layperson cannot tell the

¹⁶⁶ Simpson, The Meaning of Evolution (rev. ed., 1967) pp. 344-45.

¹⁶⁷ Dawkins, The Blind Watchmaker (London and New York: W.W. Norton & Co., 1986) p. 5.

¹⁶⁸ Plantinga, "Methodological Naturalism, Pt. 1," pp. 7-9.

difference. These quotes flag a problem in 'popular' science, and one that we can hopefully avoid in this project if we are very careful.

We obviously do not blame philosophers when they make belief statements; Plantinga, as you might have guessed, makes no apologies for his. But the line between their belief statements and their axiology needs to be clear for a project of this kind or for science. It is not clear whether Simpson or Dawkins hold these kinds of statements as justifiable philosophical or methodological positions in their research, but for our purposes, given the lack of justification offered for their part, we will assume at present that they hold some defensible form of naturalism.

3.3.2: Naturalistic Religion

The second major version of religious naturalism is much more interesting. Here we find what we might call two 'sub-versions' of religious naturalism seriously held by philosophers and, oddly, some theologians. J. Wesley Robbins, in his essay "Religious Naturalism: Humanistic vs. Theistic," describes these two varieties of religious naturalism, calling them, respectively from his title, 'pragmatic humanism' and 'theistic radical empiricism.' The first of these types locate their tradition in the pragmatism of John Dewey and William James. The second finds its roots in the empiricism of the modern era.

Dewey, in formulating his pragmatic program, attempted to provide functional translations of all human beliefs and worldviews so that, those who hold beliefs like, that a God exists, may do so, but with a qualified definition of that to which the term 'God' refers. The 'God' that has inspired moral acuity and human dignity and scientific innovation is human creativity and intellectual progress. We shift paradigms (to borrow a

Kuhnian term), we trade old ideas for new ones, and we pride ourselves on the increasingly ingenious profitability of the discoveries of the human mind. Robbins writes:

John Dewey made a religion out of the ingenuity that Americans prize and this Jamesian account of it. He described human creativity as part of an ongoing process that does endlessly what the God of classical theism supposedly did once and for all, bring ideal values and actuality together. This artistic reworking of existing conditions for the sake of imagined and hoped for futures is Dewey's functional replacement for the God who eternally unites Being and value.¹⁶⁹

In rejecting the God of classical theism and placing all his faith in the human intellectual enterprise, Dewey exemplifies humanism. Richard Rorty places himself as a successor in the line of this Deweyan 'religion,' and claims that all the things that were at one time considered necessarily the product of a deity, e.g., morality and creativity, can now be understood as an evolution in human cognitive capacity.

Richard Rorty calls Dewey's religious function "poetry." Both of them locate this creativity, once thought to be the prerogative of the gods, in human communities rather than in extra-human nature. That makes them humanists, They also recognize that the natural world is the place in which the values associated with human creativity are embedded. For, although art or poetry has a "human abode," this abode itself occurs in a larger environment that produced it and sustains the creativity occurring there. This connection of human creativity with its surrounding world is what natural piety celebrates.¹⁷⁰

Robbins, who identifies his own position with this subvariety of religious naturalism, emphasizes the fact that religious humanism is not a self-centered position. It might be perceived as an individualistic doctrine, whereupon being 'given' such a rich intellectual history and prowess, an individual may use it to the best of his abilities or for what she perceives as her own good. The idea is that progress presents the ultimate opportunity for an 'exercise of power,' so to speak. But Rorty says that we should recognize the community around us that fosters intellectual progress and express gratitude to the *context* in which we are able to communicate and understand other beings

 ¹⁶⁹ J. Wesley Robbins, "Religious Naturalism: Humanistic vs. Theistic,"
<u>http://mypage.iusb.edu/~wrobbins/Essays/religiousnaturalism.html</u>, p. 1.
¹⁷⁰ Ibid.

because of this "gift." This leads to the central tenets of religious humanism, the predecessor of what Robbins calls pragmatic humanism. Robbins explains his religious humanism through Rorty's depiction:

...Rorty explicitly endorses the key elements of Deweyan religious humanism. These are (i) reliance on the religious function, conceived of as linguistic creativity, in its human abode and (ii) celebration of the connection of human life with the larger natural world.¹⁷¹

Dewey highlights both the sense of awe felt in the face of genius, or poetry, or technology, and a moral scope that involves communities rather than individuals. Robbins explicates Rorty's larger position as a contemporary combination of the religious humanisms of Dewey and William James. The central idea is that religious language need not be rescinded from discourse, but the meaning of the language must be continuous with facts revealed by the natural sciences. It operates much like Dewey's in that it is a functional construction out of language that already exists. The language is just redefined in naturalistic functional terms and explanations. To this James's conception of the evolution of intelligence and political change is added.

I will call Rorty's position "pragmatic humanism" to indicate that it consists of two distinct components, an intellectual self-image and a religious stance. The pragmatic intellectual self-image derives from James's account of the role of human creativity in social change and of the adaptation of our thoughts and words to the environment. The humanist religious stance derives from Dewey's reworking of Christian faith into a reliance on our own creative powers in pious recognition that they and we are in a larger environment on which we depend for support of our efforts to realize ideal values.¹⁷² J. Wesley Robbins "Religious Naturalism" p. 4(document file)

Little else needs to be said about this subvariety of religious naturalism. It does not attempt to justify its adherence to the sciences as the only legitimate method of knowing, but it proscribes religious tendencies that persist outside of scientific discourse, that is, the ones that cannot be reduced to functionalist terms. Whereas moral norms are

¹⁷¹ Ibid., p. 2.

¹⁷² Ibid., p. 4.

acceptable, for example, the divine command theory as an explanation for the norms is out.

The second variety of religious naturalism is identified by Robbins as 'Radical Theistic Empiricism.' Whereas pragmatic humanism derives from early American pragmatism, radical theistic humanism is derived from the Modernist empirical project. It is a constructivist program in that it acknowledges, with pragmatic humanists, that our intellectual contact with the world is a process of selective interest.

William Dean is a contemporary proponent of this subvariety of naturalism. He appeals to the radical empiricists of the Modern period, but focuses specifically on the moral and aesthetic experiences of the affective states, which give rise to the belief in a naturalistic god. This god is very similar the God of classical theism in that it has power beyond that of human creativity, as on the pragmatic humanists' religious naturalism, but is very different in most other respects.

Dean agrees with pragmatic humanists that values develop, along the lines of Darwinian evolution, around those things in which humans have a vested interest. So far we have run of the mill naturalism. But Dean wants to include, additionally, that the constructions of value that humans help to evolve, as intellectual creatures, are not tied to purely physical entities. This means that value can develop throughout nature as a kind of creative force, revealing legitimate value in different and new aspects of nature. Robbins says this is just "panpsychism with a different name."¹⁷³ Dean's god is an evolutionary development centered on the bestowal of meaning and morality.

A problem Dean faces in claiming that his position is naturalistic is continuity with the sciences. Pragmatic humanists object that radical theistic empiricists propose

¹⁷³ Ibid., p. 7.

many entities and experiences outside of the causal structure of the physical sciences. Mechanistic natural theories lead pragmatic humanists to hold that nature is indifferent to human moral valuations. They take it that this is the only reasonably scientific conclusion. But radical theistic empiricism, in postulating experiences like "divine tropisms" of moral feeling that emanate from nature, clearly blur boundaries that typical naturalists would not approach.

Dean's response to such criticisms is more esoteric than philosophical. Robbins questions Dean's descriptions as naturalistic in any sense:

In American Religious Empiricism, Dean explains the silence of the natural sciences about a natural power predisposed to create ever more beautiful things in terms of the abstractness of scientific descriptions. The concrete immediacy of causal efficacy and the divine tropism felt therein are beyond scientific descriptions because the latter are abstract. This epistemological dualism between knowledge by acquaintance and knowledge by description calls the naturalistic credentials of radical empiricist theism into question for pragmatic humanists. There is no difference that makes a difference between a theological dimension of the natural world and the God of classical theism. Both are beyond the descriptive capabilities of the physical sciences. Given their common transcendence of scientific description, there is no more reason to locate Dean's divine tropism in the natural world of things that have scientific descriptions than in the supernatural world of things, like the God of classical theism, that do not.¹⁷⁴

Interestingly I think Robbins's position is subject to his own critique. When he defends his ability to find meaning in a mechanistic world he writes, "We are aware that the rain falls on the just and the unjust. We are impressed also with the silence of the natural sciences about entities in the inanimate realm that are *value oriented in their nature* or operations."¹⁷⁵ Quoting William James he continues, "My belief in a universal tropism toward greater complexity, 'based on the good it does me, must run the gauntlet of my other beliefs."¹⁷⁶

¹⁷⁴ Ibid., p. 12.

¹⁷⁵ Ibid., p. 12, emphasis mine.

¹⁷⁶ Ibid.

The classical theist surely says the same thing in some respects. "I experience a significant change in my life when I have accepted a belief in God. This belief must run the gamut of my other beliefs, that is, it must be consistent with the reality that I encounter daily and the experiences with which I am familiar. It must make a meaningful difference if I am to accept it as true." If Dean can say even this much, then he has fulfilled everything Robbins asks for in a rational scientific epistemology.

This is enough to identify the features of religious naturalism in its more philosophical guise. Religious naturalists seem to take it as self-evident that the natural world exudes a moral aspect. They do little to justify this belief through the sciences. It is almost what might be called an appeal to Veblen-type evidence. Sociologist Thorstein Veblen argues that there is a type of evidence that is known by "preference...drawn from everyday life, by direct observation or through common notoriety, rather than from more recondite sources at a farther remove."¹⁷⁷ This type of evidence is circumspect and arguably spurious. When applied as justification this evidence is only viable in broad examples accepted by most communities of discourse, e.g., Hitler was a bad man. The central point is that religious naturalism does not emphasize the major tendencies of philosophical naturalism and does not provide support for a justification of naturalism's claim that science is the only legitimate method of inquiry.

To be sure, religious naturalism has other connotations, especially in the New Age movement. The naturalism exemplified here is closer to that of popular writers and poets, as when John Muir called himself a 'naturalist.' There are societies that make statements that sound very close to naturalism as I am characterizing it. For instance, on the website

¹⁷⁷ Thorstein Veblen, The Theory of the Leisure Class (New York: Dover Publications, 1994) p. XX.

called Religious Naturalism Online,¹⁷⁸ the homepage contains their creed statement. It reads as follows:

We find our sources of meaning within the natural world, where humans are understood to be emergent from and hence a part of nature. Our religious quest is informed and guided by the deepening and evolving understandings fostered by scientific inquiry. It is also informed and guided by the mindful understandings inherent in our human traditions, including art, literature, philosophy, and the religions of the world.

The natural world and its emergent manifestations in human creativity and community are the focus of our immersion, wonder, and reverence. We may describe our religious sensibilities using various words that have various connotations — like the sacred, or the source, or god — but it is our common naturalistic orientation that generates our shared sense of place, gratitude, and joy.

Notice that the scientific element is here, as well as the humanistic element, when meaning is described as being derived from the natural world. The deviation from philosophical naturalism comes with the addition of 'guides' and sources of 'information' beyond the natural sciences. This is obviously not a version of contemporary naturalism as I am characterizing it.

3.4: Ethical Naturalism

Ethical naturalism has become popular for at least two reasons: (1) the increasing application of evolution to moral questions, and (2) the increasingly apparent flaws of traditional deontological, utilitarian, and virtue ethics. The flaws with traditional ethical theories involve either vast incompleteness, as with utilitarianism with regard to measurement and population scope, or an increase in basic understanding of human dignity and practicality, as with virtue and Kantian ethics given their propensity to universalize out of the context of humanity. Ethical naturalism is the intent to shift the focus of ethics to just those situations where individual humans matter contingently and in the real world, without concern for a transcendental justification or measurement

¹⁷⁸ www.religiousnaturalism.org

strategy. This intent is enacted by appeal to the natural world through the sciences. John Post writes that,

...ethical naturalism holds that moral properties are equivalent to or at least determined by certain natural properties, so that moral judgments either form a subclass of, or are (non-reductively) determined by the factual or descriptive judgments, and the appropriate moral justification and explanation are continuous with those in science.¹⁷⁹

This, of course, does not mean very much without some sort of content supplied by science concerning a morally relevant "natural property." The ethical naturalist will appeal not to physical things themselves, though physical things are still considered the only relevant type of object to which an appeal can be made, but to certain properties of physical things that express an emergent or irreducible moral dimension.¹⁸⁰ These are the philosophers who take it that science has the ability to inspire awe and moral excellence, especially with regard to stewardship of all living things, including, of course, humans.

The challenge for the ethical naturalist concerns whether there exists what John Hare calls a Moral Gap.¹⁸¹ Hare claims that morality has traditionally had three aspects: (1) a moral demand to which we, as rational agents, feel compelled, (2) natural capacities which are unequal to the moral demand, whereupon we need some sort of assistance to, "do the right thing," and (3) a divine or holy being that is the source and reconciliation of the moral demand. The challenge for the naturalist is to overcome the gap between (1) and (2) without the addition of (3), or by replacing (3) with a natural form of assistance.

The naturalist may attempt to, according to Hare, "puff up the capacity" of humans and say that all humans are capable of moral excellence; they just need to be properly motivated. The question then, is what type of motivation is required. Most attempts have involved the making explicit of the consequences or stakes involved in

¹⁷⁹ John F. Post, "Naturalism," Cambridge Dictionary of Philosophy, p. 596.

¹⁸⁰ Ibid., p. 597.

¹⁸¹ John E. Hare, "Naturalism and Morality," in Craig and Moreland, Naturalism: A Critical Analysis.

each moral decision. The question is whether complete and explicit knowledge of a moral consequence is enough to overcome the greed and personal satisfaction that such knowledge could enable the agent to enact *against* the dignity of another person. The answer is unclear and beyond our scope here, so I will not pursue it.

The naturalist may, instead, attempt to reduce the demand so that our capacities are fit to the demand. This has taken the form of ethics as care for those around and closest to us, reducing any responsibility to our greater world, since we can only do so much. But the reduction of moral concern to our scope of interaction does not and cannot fit or explain our moral feelings toward those far away who have suffered from some tragedy or catastrophe, and whom we feel 'deserves' our special giving or care. It has also taken the form of allowing people to determine their own personal scope of moral concern. This would be the employment of some evolutionarily prescribed relativism. The problem here is that the scope of care for loved ones or ourselves cannot just be to meet whatever standard people, or we, set for themselves, or ourselves. To be healthy each of us needs an "impartial sense of justice" and to be treated with a "base line of respect."¹⁸² Again, naturalism's ability to overcome this difficulty is unclear and I will not pursue it.

The third strategy is to replace the divine assistance with something from the natural world. This is where a specifically naturalist ontology distinctly comes to bear. Philosophers has answered this question in one of three ways, rational choice theory (a kind of invisible hand arranging our choices somehow rationally), an appeal to history as guiding our moral norms, and evolution as biologically 'building-in' our moral constraints, and guiding evolutionary moral development. The third tends to be the most

¹⁸² Ibid., p. 198.

popular of late, even though there is nothing obviously moral about the process of natural selection.

Evolutionary ethicists have attempted to explain moral feelings in terms of selective population attitudes that have proven successful survival tools, such as the appropriate times to respond to a pressure with anger or guilt.¹⁸³ Others have attempted to define moral attitudes as nature's attempt to counterbalance organism egoism with altruistic traits. Though these traits are not immediately selectable, their overall pull on the natural system exerts enough altruism to be selective for the population.¹⁸⁴

The evolutionary solution to the third part of the moral tri-lemma is more of a descriptive explaining away of the moral demand, than an ontological assistance in doing the right thing. It merely explains the moral demand as those socially selectable traits and, if so-and-so does not exemplify them, too bad. They could guide moral decision making if we could identify the relevantly selective behaviors. But then again, for humans this might paint a picture more like the Saturday Night Live character Leon Phelps, rather than the altruistic and/or humanistic exemplifier of moral excellence that we cherish so deeply.

Whether the naturalist can develop a consistent moral picture and whether evolution is the key to that development is beyond the scope of this project, but it helps to see that the relevant issues for such a picture are irrelevant to justifying the conjunction of naturalism's claim of strict adherence to science with the claim that science is the only legitimate method of knowing. It should be noted that many naturalists find the theory of

¹⁸³ Alan Gibbard, Wise Choices, Apt Feelings (Cambridge: Harvard University Press, 1990) p. 260 cited in John Hare, "Naturalism and Morality."

¹⁸⁴ Donald Campbell, "On the Conflicts between Biological and Social Evolution and between Psychology and the Moral Tradition," *American Psychologist*, 30 (1975), pp. 1103-26, cited in John Hare, "Naturalism and Morality."

ethical naturalism undesirable. They claim that it is unclear that any property included in a scientific ontology displays properties that could be described as 'value-laden.' These naturalists tend to feel that naturalism, nature, and science are morally neutral concepts and that any act we may perceive as 'moral' has its explanation in something definable in terms of nonmoral, physical processes. We can now move on to the three most common characterizations of naturalism.

3.5: Metaphysical/Ontological Naturalism

Ontological naturalism is naturalism intent upon determining the contents of the scientific ontology or the methods by which those contents are delineated, using the methods and findings of the natural sciences. It is the strongest form of naturalism as an analytic thesis. Ontological naturalists typically make universal claims about every object that exists or could possibly exist in the universe, sometimes based on a conception of science as hypothetically complete. Claims concerning the hypothetically complete sciences mean that regardless of the current state of scientific methods and findings, we can know that there are certain things that science will never discover, and that are therefore not real in any significant sense. Metaphysical naturalism primarily excludes entities or events that purport to employ a conception of causation that is undetectable to scientific investigation. Systems that claim both rational support as well as the existence of nonscientific causation include, but are not restricted to, mind-body dualism, classical theism (whether Jewish, Christian, or Islamic), certain polytheistic religions such as Hinduism, and many varieties of New Age beliefs. This is typically expressed by phrases like the "causal closure of the universe." Immaterial substances such as souls or minds are rejected, thus any form of Cartesian dualism is rejected, though some philosophers accept emergent properties. Naturalist Hilary Kornblith writes:

It is no surprise, of course, that anti-naturalists have defended metaphysical claims which are at odds with the best available scientific views. Well known are accounts of consciousness, human action, and mentality generally which appeal to occult forces: immaterial stuff, agent causation, the "subjective ontology" of the mental. It is of little concern to defenders of such views that there is no more place for these things in contemporary scientific theory than there is for phlogiston, entelechies, or telekinesis.¹⁸⁵

These types of causes are rejected because science accepts only one type of causation as legitimate: that is, physical to physical. It is the properties of an object that determine whether or not it can be influenced by another object. This rules out early conceptions of causation as *a priori* dispositions of certain objects to act on others. Naturalists agree with Timothy O'Conner that, "Causality, we might say, is *non-haecceitistic*: objects do not have a primitive disposition to act on certain other individual objects; they are instead disposed to act on any objects having the right characteristics."¹⁸⁶ Therefore, even if an immaterial substance exists, there is no reason to believe, given our current scientific conception of causation, that it has the potential, given its lack of physical properties, to influence a physical object. Therefore, immaterial forces and beings are causally impotent to a physical world. Since only one type of causation is possible on this definition of causation, then to posit any entities other than physical is merely superfluous.

Some philosophers go a step further with ontological naturalism making claims that only *extended* physical objects, or particulars, exist. In this case properties or universals, numbers, sets, and propositions are denied existence. Proponents of this view include D. M. Armstrong, who accepted universals (as physical relations) but denied the existence of numbers or sets, and Wilfrid Sellars who claimed that, "...a naturalist

¹⁸⁵ Hilary Kornblith, "Naturalism: Both Metaphysical and Epistemological," *Midwest Studies in Philosophy: Philosophical Naturalism*, vol. XVIII (Notre Dame: Notre Dame Press, 1993) p. 40.

¹⁸⁶ Timothy O'Conner, "Causality, Mind, and Free Will," Soul, Body, and Survival (Ithaca, NY: Cornell University Press, 2001) p. 45, emphasis his.
ontology is necessarily a nominalist ontology."¹⁸⁷ However, contemporary science tends to reject these strict philosophical positions because they are too narrow for relevant scientific data. In fact, causation can be extended to theoretical entities, just in case they exert explanatory power in a theory. For example, gravitation is that mechanism we invoke to describe the way mass in the universe affects other mass. Gravity is not an empirically detectable entity, except in that it is a concept to which we can attribute certain physical properties, and this set of properties as opposed to any other set, defines "gravity" so that it explains the relevant empirical data concerning the behavior of mass.

Regardless of what they ultimately conclude the sciences imply ontologically, ontological naturalists hold that only entities definable within science and usually those terms associated with mathematics actually exist. This is held to stronger and weaker degrees from naturalist to naturalist. Some claim that the hypothetically completed natural sciences indicate that, in fact, nothing else exists.¹⁸⁸ Some claim that, given our method of analysis, we are warranted in believing that nothing else exists, or that, if it did, it is either reducible to, or emergent from, some scientific concept, or is superfluous.¹⁸⁹ The process of defining an ontology relevant for scientific by appealing to science is controversial as well. Hilary Kornblith says that science, given its current stance on the higher level relations among mental states, "does not support reductionism,"¹⁹⁰ and therefore the naturalist cannot reasonably hold a reductionist position. On the other hand, Jerry Fodor implies that naturalism necessarily involves reductionism. Fodor writes,

¹⁸⁷ Wilfird Sellars, *Naturalism and Ontology*, p. 109, as cited in Moreland, "Naturalism and the Ontological Status..." in *Naturalism: A Critical Analysis*.

¹⁸⁸ Pennock, Tower of Babel, p. 190.

¹⁸⁹ David Papineau, *Philosophical Naturalism*, chapter 1.

¹⁹⁰ Kornblith, p. 41.

... what we want at minimum is something of the form 'R represents S' is true iff C where the vocabulary in which condition C is couched contains neither intentional nor semantic expressions.¹⁹¹

Commenting on this quote Michael Tye writes, "...according to Fodor, we must provide reductionist necessary and sufficient conditions."192

Historically, the attempt at a scientific conception of the world was intended to eradicate the metaphysical project from modes of legitimate inquiry. Since naturalism seems to be a descendent of these programs, it seems inconsistent to use the title "metaphysical naturalism" for the position that is marketed in this section. It seems the reason that some naturalists still use the term is that it merely indicates the current conception of metaphysics as the field of "meta-theories" of scientific progress and justification, since there is obviously, on their conception, no transcendent reality to which the term could refer. But with the rise and success of philosophy of religion since Plantinga's publication of God and Other Minds in 1967, the term "metaphysics" has taken a turn back toward the rationalist implication of a transcendent realm. Because of this, to use the term here might occlude certain intentions by naturalists. Given that this version of naturalism specifically identifies claims as to what exists or possibly existsthat is, "ontological" claims-I will only use the term "ontological naturalism," except in direct quotes.

The task of naturalistic ontology takes one of two possible routes: (1) to "draw out the metaphysical implications of contemporary science;"¹⁹³ or (2) to investigate traditional metaphysical questions in light of the scientific ontology. After the demise of

¹⁹¹ Fodor, "Semantics, Wisconsin Style," reprinted in A Theory of Content and Other Essays (Cambridge, MA, 1990), p. 32, originally published in SYNTHESE, 59, 1984, p. 32.

¹⁹² Michael Tye, "Naturalism and the Problem of Intentionality," Midwest Studies in Philosophy: Philosophical Naturalism, vol. XIX, p. 125. ¹⁹³ Kornblith, p. 40.

positivism and Quine's rejection of the analytic/synthetic distinction many philosophers gave up metaphysics as a philosophical pursuit. Some even went so far as to reject the term "philosophy" since it held such deep roots in metaphysical projects.

As for the first route, naturalism claims that there is "no extrascientific route to metaphysical understanding,"¹⁹⁴ thereby rejecting first philosophy altogether. This is obviously not an absolute rejection of philosophy or metaphysics, but a significantly qualified version of them. The qualification is derived specifically from the sciences. Therefore the only subject available from which to begin an adequate philosophy is the empirical results of the natural sciences. This route is designed specifically to keep all relevant philosophical and scientific discourse within a relevant, sometimes called a 'public,'¹⁹⁵ set of boundaries.

As for the second route, philosophers attempt to evaluate the arguments of past philosophical eras to determine the worthy elements that may be gleaned from them. This project involves applying the sciences to questions such as the mind-body problem, the question of universals and particulars, and idealism and realism. Philosophers like Hilary Putnam claim to have discovered that these dichotomies are really too stark to capture reality and that a scientific conception of them allows a greater understanding of what is involved in the claims involved.¹⁹⁶ This route obviously presupposes the first, that science is the only legitimate route to understanding the world.

Ontological Naturalism in Contemporary Use

It is difficult to see the implications of a version of naturalism without seeing it used in the literature. In this section I will analyze several contemporary explications of

¹⁹⁴ Ibid.

¹⁹⁵ 'Public' here refers to the idea that scientific findings are absolutely open to any trained observer because the entities are observable and the experiments are such that they can be reproduced. ¹⁹⁶ Cf. Hiler: Putrem. The Many Eases of Realism (New York: Open Court, 1990).

¹⁹⁶ Cf. Hilary Putnam, The Many Faces of Realism (New York: Open Court, 1990).

ontological naturalism. Jeffrey King explains that ontological naturalism is the belief that "scientific theories or subtheories give us an ontology with which to work."¹⁹⁷ Robert Pennock concurs, but also claims that it implies physicalism. He explains, "The ontological naturalist makes substantive claims about what exists in nature and then adds a closure clause stating 'and that is all there is."¹⁹⁸ Philip Johnson, an avid anti-naturalist, has defined naturalism with an ontological character:

Naturalism assumes the entire realm of nature to be a closed system of material causes and effects, which cannot properly be influenced by anything from "outside." Naturalism does not explicitly deny the mere existence of God, but it does deny that a supernatural being could in any way influence natural events, such as evolution, or communicate with material creatures like ourselves.¹⁹⁹

Keith Parsons agrees with Johnson's definition, calling it 'metaphysical

naturalism,' and accepts it as his own with the following two amendments:

I would only amend this definition by noting that what it says about God would apply equally well to other putative supernatural beings such as devils, angels, souls, spirits, and so forth.²⁰⁰

and

Naturalism per se does not entail physicalism. Naturalists do not even have to admit that the causal order is closed. They could be epiphenomenalists who hold that there is one-way causation from the physical to the mental. Still, to obviate long, boring semantic quibbling, I shall simply accept Johnson's definition.²⁰¹

The first qualification is trivial for our concerns. The first part of the second

qualification, concerning physicalism, merely reflects what we have seen concerning

naturalism's logical relationship to physicalism. The last qualification, however, is quite

radical. Parsons, in claiming that a naturalist could be an epiphenomenalist, thinks that a

¹⁹⁹ Philip Johnson, Darwin on Trial, pp. 116-17.

¹⁹⁷ Jeffrey C. King, "Can Propositions Be Naturalistically Acceptable?" in *Midwest Studies in Philosophy: Philosophical Naturalism, vol. XIX* (Notre Dame: University of Notre Dame Press, 1993) p. 54

¹⁹⁸ Robert T. Pennock, Tower of Babel, p. 190. This may be the most common conception of ontological naturalism. Dallas Willard calls it "a form of monism," ... Robert Koons says it means that "the world of space and time is causally closed," ... Stewart Goetz follows David Papineau in claiming that it means "a commitment to the completeness of physics," ...

 ²⁰⁰ Keith Parsons, "Need Reasons Be Causes?" *Philosophia Christi*, Vol. 5, No. 1, 2003, p. 63.
²⁰¹ Ibid., p. 63 n. 2.

naturalist could hold some form of one-way interactionist mental dualism, provided that the 'one-way' direction occur only from the physical to the mental, rather than the other way around. This would be an interesting route for the naturalist to take! It would first concede to the existence of non-physical, non-logical (not tautologous) entities. It is not clear that such an ontological addition could be warranted by empirical methods. David Papineau agrees that epiphenomenalism is successful in avoiding physicalism, "Epiphenomenalism satisfies supervenience, since it rules out the possibility of mental variation without physical variation. But it isn't a physicalist doctrine, since it explicitly specifies that mental properties are quite distinct from physical ones."²⁰² The problem is that it also assumes some sort of causal interaction between the physical and non-physical objects, without recourse to empirically warranted explanatory power. Therefore, it seems difficult to think epiphenomenalism could be a naturalist doctrine. Permit me to wander a moment in order to explore the viability of this option.

How would a naturalist warrant such a move? It seems he would have to take several spurious steps away from naturalism only to come right back. He would have to accept that some theory held greater explanatory power for scientific data by positing a metaphysically different realm of the mental, rejecting causal closure principles. If the naturalist made this move based on a purely logical argument, then he would be accepting an *a priori* justification for the theory, and would thus cease to hold naturalism. But if there were empirical data that were better unified by the explanatory posit of a realm metaphysically distinct from the physical, then the naturalist would be justified in rejecting causal closure while retaining naturalism as a strict analytic thesis.

۰.

²⁰² David Papineau, Philosophical Naturalism, p. 5.

So how lively of a possibility is this option for the naturalist? Not very, it seems.

The problem lies in the fact that, on an epiphenomenalist view of mind, mental events are

merely receptors or perceivers and are not causally efficacious. Jaegwon Kim says,

According to T. H. Huxley, every mental event is caused by a physical event in the brain, but mental events have no causal power of their own, being the absolute terminal links of causal chains. So all mental events are effects of the physiological processes going on in out nervous system, but they are powerless to cause anything else, even other mental events.²⁰³

Quoting Samuel Alexander, Kim shows the lack of possible explanatory use of such a system:

[Epiphenomenalism] supposes something to exist in nature which has nothing to do, no purpose to serve, a species of noblesse which depends on the work of its inferiors, but is kept for show and might as well, and undoubtedly would in time, be abolished.²⁰⁴

In order to accept a theory as expressing some degree of truth or in order to posit an entity as real the naturalist must base the justification, first on some empirical data which demands an explanation; determine whether the posit would account for everything in the current explanation (mental activity is the result of biological/chemical evolution) plus the new data (rational thought has properties irreducible to chemical processes); and, in the case of entities (such as metaphysical realms or minds), answer the question, "Does it do anything?" indicating that it is causally efficacious to posit the entity. But the epiphenomenalist holds that the mental does not *do* anything. It is merely a passive receptor. Therefore, without claim to any causal efficacy, the epiphenomenalist mental realm is innocuous and merely restates a problem without providing a solution. There are further problems with this scenario including the existence of the mental realm if it is supposed to be caused by physical events, as Huxley comments. Since nonreductive physicalism posits the same description for species of emergence, it seems hard to see how this could constitute a metaphysically different realm. So in spite of Parsons's

²⁰³ Jaegwon Kim, Philosophy of Mind, p. 51

²⁰⁴ Ibid., p. 129. and Samuel Alexander, Space, Time, and Deity (London: Macmillan, 1920), vol. 2, p. 8.

request to avoid quibbling I have quibbled, but we must acknowledge that epiphenomenalism as an argument against causal closure would not even hit the naturalist's radar screen.

So, again, the whole general idea behind ontological naturalism is that it claims that science implies facts about what actually exists, and with this pre-confirmed nugget in hand proceeds to theorize about philosophical issues. In some cases this extends to what makes something count as real, as in a theory that holds realism with regard to mental intentionality. Although ontological naturalism is informed by natural science, it claims either that regardless of what it is possible for science to discover, or currently of what we know from science, we know enough to claim that only certain things actually exist, and those things will be empirically and/or experimentally detectable in one way or another at some point. The central point is that nothing legitimate is considered to exist beyond the scope of science.

Sometimes the assumption of naturalism as an analytic thesis with the ontological naturalism is not explicit. In fact, it is typically inferred from some statement concerning the ontology determined by science. When metaphysical naturalism appears this way, Rea calls it a "quasi-ontological thesis".²⁰⁵ Some examples of this are as follows:

(1.1) Science is the measure of all things, of what is that it is and of what is not that it is not. (W. Sellars 1963: 173)

(1.2) Naturalism...is a species of philosophical monism, according to which whatever exists or happens is natural in the sense of being susceptible to explanation through methods which, although paradigmatically exemplified in the natural sciences, are continuous from domain to domain of objects and events. (Danto 1967: 448)

(1.3) Ontological naturalism is the view...that only natural objects, kinds, and properties are real....Since ontological naturalism is supported by the success of natural science, and success is success in recognizing what is real, it would do best to define 'natural' as 'what is recognized by natural science.' (Schmitt 1995: 343)

²⁰⁵ Rea, World Without Design, p. 56.

(1.4) Naturalism imposes a constraint on what there can be, stipulating that there are no nonnatural or unnatural, praeternatural or supernatural entities....Nature comprises those entities and constructs made of those entities that the ideal physics, realistically interpreted, posits. (Pettit 1992: 245, 247)

These characterizations might be read as referring to the ontology of a "best" or "ideal" science. But there is no such thing as a 'best' or 'ideal' physics. "The physics we have now is not the best (otherwise there would be no reason to continue trying to improve it) and it is less than ideal. But if there is no ideal physics, then there is no *ontology of the ideal physics.*"²⁰⁶ Rea expresses that metaphysical naturalism might be more plausible if it is held to a milder epistemological or methodological thesis for determining an ontology, such as:

(1.5) In deciding what ontology to adopt, science (or an idealized version of science) should be our final authoritative guide.²⁰⁷

This is by no means uncontroversial. For example, if science determines what ontology to accept but makes no value claims about what should or should not be accepted as real, how does one justify adopting (1.5)? Indeed, Peter Forrest and Michael Ruse both consult the natural sciences to determine what exists, and while one comes up with a non-interactionist creator God, the other comes up with a blind, deterministic evolutionary universe. It seems even if one could justify the 'should' in (1.5) it is too weak a constraint on ontology.

But perhaps the 'best' that Rea suggests is too strict in its scope. Perhaps the 'best' should refer to the 'best *available*' physics. On this account naturalism would express agreement with the open-endedness of scientific research. Naturalism would allow science to dictate to it a conditional ontology as it is discovered, rather than having already done so. In this respect, naturalism cannot make any *universal* claim as to what

²⁰⁶ Ibid., p. 57, emphasis his.

²⁰⁷ Ibid., p. 58.

type of objects exist, but can only say more generally what science tells us exists at any given moment. But since ontological naturalists express doubts about the existence of non-physical entities or causal agents, and proscribe such as explanations, the scope they imply is the 'hypothetically completed sciences' rather than the conditional, 'as it currently is' science.

Hilary Kornblith says that science supports several ontological claims that naturalists are therefore rational in holding. She says that there are five "metaphysical lessons" that can be drawn from science:

(1) We should reject reductionism, both at the level of types and at the level of tokens. The highter level sciences do not simply reduce to more basic sciences. (2) Nevertheless, we should accept materialism. Everything is entirely physically constituted. (3) We should acknowledge the operation of causal powers not only in the basic sciences, but in the higher level sciences as well. (4) Natural kinds should be viewed as homeostatic clusters of properties. ... (5) Our current understanding of causation requires that we view causal powers and causal laws in a distinctly non-Humean way.²⁰⁸

To justify (1) Kornblith appeals to the explanatory power of higher level states in several sciences including scientific psychology. (3) is supported by the anti-reductivism of (1). If there are higher level operations, there is no reason to think that they involve a different type of causation, that is, so long as the empirical aspects do not show otherwise and as long as one presupposes (2). (4) is necessary for (3) since causal powers, as currently understood, cannot act on essences or natures, and (5), I take it, is a result of successful scientific prediction, though Kornblith does not address (5) directly.

I said above that Kornblith 'presupposes (2)' because she does not attempt to justify it. She says that she is a materialist and that "current science gives us no reason to doubt this thesis."²⁰⁹ In an endnote she mentions an article by Tyler Burge with which she is "very largely in agreement," with the exception of his point that, "Materialism is not

²⁰⁸ Kornblith, p. 43.

²⁰⁹ Ibid., p. 42.

established, or even clearly supported, by science."²¹⁰ She writes that she does not know how to respond to such a statement since, "science does not currently offer any support to dualism." But while she says that current scientific incompleteness should give no "comfort to dualists," she also writes that "One cannot draw conclusions about the existence of particular sorts of things from the fact of our present ignorance," which seems to tell just as explicitly against her thesis, even if we had to change "existence of particular..." to "non-existence of particular..." There remains no scientific 'support' for materialism.

Paul Moser and David Yandell do a nice job of capturing the key insights into ontological naturalism in their article "Farewell to Philosophical Naturalism."²¹¹ Ontological naturalism expresses what many naturalists want most: the complete reduction of all intelligible facts, entities, and states of affairs to objects of scientific investigation. Moser and Yandell offer three possible formulations of ontological naturalism:

(1.6) *Eliminative ontological naturalism*: every real entity is capturable by the ontology of the hypothetically completed empirical sciences, and language independent of those sciences is eliminable from discourse without cognitive loss.

(1.7) Non-eliminative reductive ontological naturalism: every real entity either is capturable by the ontology of the hypothetically completed empirical sciences or is reducible to something capturable by that ontology.

(1.8) Non-eliminative non-reductive ontological naturalism: some real entities neither are capturable by the ontology of the hypothetically completed empirical sciences nor are reductive to anything capturable by that ontology, but all such sciences supervene on entities capturable by that ontology.²¹²

These definitions are controversial, since a reasonable account of naturalism

would not make universal claims based on contingent sciences. And it is unclear that

²¹⁰ Ibid., end note 8, p. 50, Tyler Burge, "Mind-Body Causation and Explanatory Practice," p. 117.

²¹¹ In Craig and Moreland, Naturalism: A Critical Analysis.

²¹² Moser and Yandell, "Farewell to Philosophical Naturalism," p. 8.

every characterization of ontological naturalism makes claims based on the hypothetically completed natural sciences. The interesting thing about the definitions is that they capture the alternate characterizations of phenomena that is scientific but in some sense not directly detectable by scientific methods. Since philosophies of science have made these various characterizations, naturalism has followed. With the relevant changes, based on the controversial elements just mentioned, these three definitions broadly capture any version of ontological naturalism.

The Controversy over Ontological Naturalism

The most obvious problem with any version of ontological naturalism is its fundamental claims concerning what entities are entailed by the natural sciences. As a strict ontological thesis it could be overturned by advancements in science. If warranted by the current state of the sciences, then some explanation must be given for this warrant. Since the sciences make no negative ontological claims,²¹³ the warrant would have to be considered a pragmatic inference based on the fact that science has proven exceedingly successful. Very few philosophers attempt such a justification. Many just assume a naturalistic ontology based on its epistemic parity with dualism (since neither physicalism nor dualism can identify just "where" or "how" consciousness "is") conjoined with the efficacy of physical explanation. But, as we have seen, physicalism does not imply naturalism. However, since the justification for ontological naturalism takes place at the level of causal ontology, I will assume that the persuasiveness of the arguments for physicalism determines the adequacy of the defining aspect of ontological naturalism. Frederick Olafson writes, "Of course, if it is conceded that feelings are not reducible to physical states, the main ontological thesis of naturalism has to be set

²¹³ Some sciences make positive claims concerning what does exist, but not negative claims concerning what does not exist or what could not exist.

aside.²¹⁴ This, however, does not justify the naturalistic claim that accompanies this physicalism, that science is the only legitimate form of inquiry. And since few defend naturalism at the ontological level differently than they defend physicalism, I will move on to the two other, more widely held version of naturalism.

An Aside Concerning the Distinctions Among Naturalistic Theories

Physicalism, as we have seen, is the view that nothing but the observable physical world exists and that only entities which are currently of the type to inhabit such a world, and are therefore observable in the same way, exist, or are the only ones that are causally efficacious. Because of this tie to physicalism, ontological naturalism implies atheism. Several philosophers have made this connection:

Roughly we may say that ontological naturalism is bound to physicalism.

Metaphysical naturalism is, roughly speaking, the view that there are no supernatural beings—no such beings as, for example, God or angels or ghosts. Thomas Reid was a theist and, therefore, not a naturalist.²¹⁵

Naturalism eschews or rejects appeal to the supernatural and traces our origins back to blind and uncaring forces.²¹⁶

This is the basic character of ontological naturalistic theories. This is just one implication among many. Atheism concerns a disbelief in the existence of a supernatural causal agent, specifically the God of classical theism, but as an ontological theory it is linked up to epistemological theories about how we could come to believe something about the existence of entities, and methodological theories about the explanatory value of such entities. For contemporary scientific theories everything boils down to explanatory efficacy. Therefore, whether and specifically how something exists tends to remain in the background. For example, 'natural selection' is not a thing or a tangible

²¹⁴ Frederick A. Olafson, Naturalism and the Human Condition: Against Scientism (London: Routledge, 2001) p. 38.

²¹⁵ Michael Bergmann, "Commonsense Naturalism," in Naturalism Defeated? p. 61.

²¹⁶ Ernst Sosa, "Plantinga's Evolutionary Meditations," in Naturalism Defeated? p. 98.

constraint, but it has empirical explanatory power. Recognizing this makes it clear that it is the scientific aspect of a theory that makes it naturalistic and not necessarily the characterization given it in a specific argument. This is not to say that the characterizations do not need explication. Identifying the character of the naturalism employed prevents inadequate responses and straw man fallacies.

Before we move on to epistemological and methodological versions it is important to distinguish among the relevant determinants for each. Naturalism, since it is so amorphous and sometimes ambiguous, can be confused in its applications. As long as the philosophers clarify their terms, most difficulties are eliminated. But whereas naturalism is used inconsistently from application to application, the qualifiers employed to distinguish it, ontological, epistemological, etc., have an arguably standard use.

As an example of how some characterizations of naturalism get confused, consider the following statement by Robert Larmer. Larmer is discussing the causal efficacy of a supernatural agent, which, because it is a non-physical entity, might lead us to think of ontological naturalism. But his title, "Is Methodological Naturalism Question-Begging?" would be misleading if this were the case. Notice that his appeal is to the *explanatory power* of such a being, rather than its *existence*:

Regarding the doctrine of methodological naturalism, it seems that its core claim is that no physical event should ever be explained as having been directly caused by an nonnatural agent. Those who espouse methodological naturalism claim that it is in principle illegitimate to posit a nonnatural cause for a physical event. If God is assumed to act in nature He must be assumed to act through natural secondary causes. Thus, whatever one's metaphysical beliefs concerning the existence of God, one must adopt methodological atheism in *explaining* the occurrence of physical events. Any suggestion that a physical event might have as its direct and immediate cause a supernatural agent is not to be countenanced.²¹⁷

²¹⁷ Robert Larmer, "Is Methodological Naturalism Question-Begging?" *Philosophia Christi*, No. 5, Vol. 1, 2003, p. 114, emphasis mine.

After the way we characterized physicalism in chapter 2, as basing its arguments on causal efficacy, and remaining agnostic about entities other than causal ones, this might seem like a pretty big nit to pick. With physicalism, the focus is on the entities themselves, and the extent to which science allows us to posit them, not the extent to which science allows them into our explanations. Dan Crawford exemplifies the distinction with a question:

Does evolutionary naturalism rule out the theistic God? If so, how? Is the ruling out a *metaphysical* claim (that God does not exist) or merely a *methodological* rule that disallows supernatural explanations?²¹⁸

If a philosopher does not use language that differentiates between the existence of entities allowed by science and the explanation of events allowed by science, then the distinction will be pretty easy to miss. Is there an upshot, you might ask? Probably not. If the position is reasonably naturalistic in its central claims, then the specific type of naturalism involved is relatively inconsequential. The real nitty gritty will come if and with how the theory is given justification.

3.6: Epistemological Naturalism

Epistemological naturalism is naturalism intent upon determining the boundaries of the legitimate realm of knowledge, or the legitimate methods by which knowledge is obtained, using the methods and findings of the natural sciences. Hilary Kornblith writes that, "A proper epistemological theory must explain how knowledge is possible."²¹⁹ A naturalistic epistemology must accomplish this task through the findings and methods of the natural sciences. A philosophical investigation of knowledge must take into account both the cognitive machinery of belief formation and the physical machinery of perception. Both are fallible and both are dependent upon a certain type of environment

²¹⁸ Dan D. Crawford, "Does Evolutionary Science Rule out the Theistic God?" *Philosophia Christi*, Vol. 5, No. 1, 2003, p. 167, emphasis his.

²¹⁹ Kornblith, p. 43.

for their proper functioning. But in spite of this we must begin by assuming with Kornblith that, "Our perceptual faculties are extraordinarily well suited to providing us with an accurate picture of the world around us." Without such an assumption we are lost in skepticism with no solid ground on which to stand. A naturalized epistemology does not have to tell us *that* our perceptual faculties are working properly but *how* they do so. Of course if we are left with the conclusion that science cannot provide an adequate account of perception (as with Plantinga's argument from chapter 2), we may be left with momentary skepticism, until science determines a way to reconcile the problem.

Kornblith writes:

We are not trying to respond to some imaginary skeptical opponent who doubts that knowledge of any kind is possible at all. Rather, in recognizing the achievements of the sciences, we are faced with a straightforward question which science itself may address. On the one hand, a scientific psychology characterizes the cognitive faculties of human beings. On the other, our current scientific theories give living proof of what those cognitive faculties are capable of. We must now try to explain how creatures with the faculties of cognitive science tells us we have could have come to understand the kind of world which the sciences generally tell us that we inhabit.²²⁰

Naturalistic epistemology differs from traditional epistemology in that it takes its cues specifically from the sciences and the contingent natural world rather than *a priori* constraints and theories that are applicable in all logically possible worlds. The recognition of environmental constraints on the proper function of perceptual faculties diverges from traditional rationalist epistemologies.²²¹ Epistemological naturalism retains normative claims and the right to offer epistemic "advice" on improving cognitive practice of traditional epistemologies. Its viability comes in proving itself more effective than traditional epistemologies. "The naturalistic approach may thereby show its superiority to traditional epistemology not only in its greater power to explain the

²²⁰ Ibid., p. 43.

²²¹ Ibid., p. 45.

phenomenon of human knowledge, but also in its practical application to the project of epistemic improvement."²²²

David Shatz calls the version of naturalism I have been describing 'conceptual naturalism.' Contrary to Kornblith, Shatz says that the traditional task of epistemology is to define what knowledge is. He says that a naturalistic epistemology holds that "...at least some key epistemic locutions (*S knows that p, S is justified in believing that p*) can be explicated by exclusively 'naturalistic' conditions."²²³ In this case, only scientific entities, events, or processes can provide grounds for justifying an epistemological statement. This agrees with Steven Wagner's characterization of epistemological naturalism as taking "natural science as a paradigm of belief."²²⁴ Wagner writes, "The idea, roughly, is that only scientific beliefs are legitimate or that these have more legitimacy than any others."²²⁵ Kornblith agrees that epistemologists can naturalize their projects by defining the relevant material conditions upon which proper perception can take place.²²⁶

Whether the task of epistemology is to define knowledge itself or explain how knowledge is possible, a naturalistic epistemology must define its methods in such a way that specifically distinguishes it from traditional epistemological projects. Traditionally the task of epistemology involves two aspects, the condition a person must be in to perceive correctly, which includes the mechanical functions of perception, and the cognitive machinery to interpret the 'given' and its truth value. Traditional projects

²²² Ibid., p. 44.

²²³ Shatz, "Skepticism and Naturalized Epistemology," in Wagner and Warner, *Naturalism: A Critical Appraisal*, p. 118.

²²⁴ Steven J. Wagner, "Why Realism Can't Be Naturalized," in Wagner and Warner, Naturalism: A Critical Appraisal, p. 212.

²²⁵ Ibid.

²²⁶ Kornblith, pp. 43-49.

assumed the sufficiency of the material conditions and focused on the cognitive. Naturalistic epistemologies have swung the opposite direction, though they do not leave out the cognitive element altogether.

While the task of defining material conditions is an empirical one, the cognitive task is not. Unless the naturalist is willing to concede direct realism of some sort, the chasm between perceptual mechanism and cognitive mechanism remains. In addition, the problem that both Kornblith and Shatz face is that of identifying what 'conditions' count as 'naturalistic.' If the conditions task is the same for traditional as well as naturalistic epistemologists, then there is nothing naturalistic at this stage. There does not seem to be any well-defined set of conditions that count as naturalistic as opposed to the 'conditions' of other epistemological programs.²²⁷ But if epistemological naturalists *restrict* their domain to material conditions, then it has sufficiently distinguished itself from traditional epistemology, but now faces the problems of trying to define cognition scientifically.

Epistemological Naturalism in Contemporary Use

Two of the most ardent proponents of epistemological naturalism have been W.V.O. Quine and Philip Kitcher. Although Quine was the first to suggest the idea that epistemology be naturalized, epistemologists have criticized his description and application of epistemology as agreement with science, especially psychology. The controversy, of course, does not center on Quine's adherence to the natural sciences and thus naturalism, but the result of his attempt to 'naturalize' it on the task of epistemology.

Quine was the first to suggest that epistemologists wholly resolve themselves to the methods and findings of natural science. But Quine thinks that science is not subject to philosophy and needs no philosophical justification. For Quine questions about the

²²⁷ David Shatz, "Skepticism and Naturalized Epistemology," in Wagner and Warner, Naturalism: A Critical Appraisal, p. 118

justification of empirical knowledge, whether or not they appropriate further and further toward truth, are to be rejected. Science stands alone as testament to knowledge. Quine writes that, "[Naturalism] sees natural science as an inquiry into reality, fallible and corrigible but not answerable to any supra-scientific tribunal, and not in need of any justification beyond observation and they hypothetico-deductive method." Kornblith says, for Quine, "...the only genuine questions to ask about the relation between theory and evidence and about the acquisition of belief are psychological questions."²²⁸ Jaegwon Kim says that on Quine's theory, "Epistemology is to go out of the business of justification... Quine is urging us to replace a normative theory of cognition with a descriptive science."²²⁹ Alvin Goldman is more positive, "But [Quine's] approach, though perfectly tenable, neglects the evaluative strain pervading most of historical epistemology."²³⁰

This rejection of justification puts Quine squarely in the constructivist camp. "So, put crudely, the view is that we are justified in using a certain method insofar as it helps us to generate theories that accurately predict."²³¹ Everything boils down to an engineering problem: trial and error until prediction is satisfied. Quine says, "…normative epistemology gets naturalized into a chapter of engineering: the technology of anticipating sensory stimulation."²³² The quest for truth has gone out the window. Though this may sound disconcerting to contemporary naturalists who wish to remain realists, Quine is quite content to refrain from it. "There is no question here of ultimate

²²⁸ Kornblith in Foley, "Quine and Naturalized Epistemology," in Midwest Studies, Vol. XIX, p. 246

²²⁹ Kim in Foley, "Quine and Nat. Epist.," p. 246.

²³⁰ Goldman in Foley, "Quine and Nat. Epist.,"p. 246.

²³¹ Foley, "Quine and Nat..Epist.," p. 249.

²³² Quine in Foley, "Quine and Nat. Epist.," p. 249.

value, as in morals; it is a matter of efficacy for an ulterior end, truth or prediction."²³³ Therefore any theory that would claim realism, a thesis which is not supported by the sciences, must take place in realm of philosophical justification, which Quine rejects. The fact that Quine effectively eschews realism is a major point of contention among contemporary naturalists.

Laurence Bonjour says that if Quine is right, then we are left with a "thoroughgoing version of skepticism":

...we have a set of beliefs, i.e., we accept a set of sentences, that describe the external world; part of that set of beliefs are caused by observation, i.e., by sensory stimulation; but we have no cogent reason of *any* sort for thinking that any of these beliefs are true. And if knowledge necessarily involves the possession of such reasons, as most philosophers would still insist, then we also have no knowledge.²³⁴

In one sense Quine is the quentissential naturalist, for he identifies all the necessary moves for post-postivistic philosophy while remaining strictly opposed to radical empiricism or pure rationalism; but on the other hand, he is a kind of chimera in that many contemporary naturalists find him controversial and insufficient, or at least unfulfilled in many respects. Peter Hylton explains:

Quine's philosophy exhibits a dichotomy that many critics have found puzzling, or incoherent. On the one hand, his epistemology emphasizes the gap between theory and evidence; on the other hand, his ontology is unqualifiedly realistic. Epistemologically, he is concerned to investigate "to what extent science is man's free creation; to what extent... it is a put-up job," and his conclusion is that to a very considerable extent it *is* a put-up job. ... In response to the idea that these two views are incompatible, Quine invokes what he called "naturalism"; his naturalism, he claims, can reconcile the two.²³⁵

Quine defines naturalism as science trained upon itself and given authority to follow sensory evidence may lead. Quine writes, "Like any technology, it makes free use of whatever scientific finding may suit its purpose."²³⁶ There is controversy over Quine's

²³³ Quine in Foley, "Quine and Nat. Epist.," p. 249.

²³⁴ Bonjour, "Against Naturalized Epistemology," in Midwest Studies, Vol. XIX, p. 287.

²³⁵ Peter Hylton, "Quine's Naturalism," in *Midwest Studies, Vol. XIX*, p. 262, emphasis his. Quine's quote from *Roots of Reference* 1973 pp. 3-4

²³⁶ Quine, "Reply to White," in *The Philosophy of W. V. Quine*, pp. 663-65.

characterization because he has been accused of developing the concepts of "science itself" and "first philosophy" in non-standard ways:

What then am I excluding as 'some prior philosophy,' and why? Descartes dualism between mind and body is called metaphysics, but it could as well be reckoned as science, however false. He even had a causal theory of the interaction of mind and body through the pineal gland. If I saw indirect explanatory benefit in positing sensibilia, possibilia, and spirits, a Creator, I would joyfully accord them with scientific status too, on a par with such avowedly scientific posits as quarks and black holes.²³⁷

The "non-standard" way that is criticized is his blatant allowance of the possibility of nonmaterial substance being scientific. Contemporary naturalists automatically question the validity of Quine's examples because of the impossibility of identifying their causal relationship to the world. Quine thinks that explanatory benefit is enough to secure rational acceptance.

But why does Quine use this "non-standard" analysis of science? He says, "Demarcation is not my purpose," and explains how his point is that method is what determines a science and not any set of previously standardized criteria. No method is more successful than the experimental method and therefore every theory can be judged accordingly. Controversy continues to arise when Quine criticizes the other side of the positivist/empiricist debate, further blurring the traditional notion of science. He makes it clear that science is not to be identified with empiricism.²³⁸

Even telepathy and clairvoyance are scientific options, however moribund. If would take some extraordinary evidence to enliven them, but if that were to happen, then empiricism itself—the crowning norm...of naturalized epistemology—would go by the board. For remember that that norm, and naturalized epistemology itself, are integral to science, and science is fallible and corrigible.

Science... would still be science, the same old language game... [but] The collapse of empiricism would admit extra input by telepathy or revelation, but the test of the resulting science would still be predicted sensation.²³⁹

²³⁷ Quine, "Naturalism; or, Living Within One's Means," Dialectica, Vol. 49, 1995b, p. 252.

²³⁸ Rea, World Without Design, p. 45.

²³⁹ Quine, The Pursuit of Truth (Cambridge: Harvard University Press, 1992) 20-1, cited in Rea, p. 45

But this is not really as questionable as it might have seemed to an empiricist of the time. If we take into account Quine's adherence to science as a fallible discipline, we can easily respect his recognition that to presuppose empiricism would simply beg the question of justification. The methods of science, that is experiment and dialogue with previously held theories, are separable from empiricism, since empiricism implies a normative project which are not claimed by experiment. Commenting on the above, Rea notes:

If naturalism is a well-defined view, why beg off the challenge to draw lines between naturalistic philosophy and non-naturalistic philosophy? But if we take the view...that methodology is more central to naturalism than any thesis, ontological or otherwise, and if we keep in mind the fact that the nature of scientific method is not precisely defined, it becomes very easy to see why Quine says that 'demarcation is not his purpose'.²⁴⁰

Quine's epistemology may be described as primarily descriptive while his naturalism is a normative call for philosophy to strictly adhere to science. We can only know facts about the way humans come to knowledge through the only legitimate method of knowing, that is, natural science. Its normative force lies in the pragmatic success of science as the most effective method of inquiry into the world. Contemporary epistemologists have found problems with Quine's reduction of epistemology to psychology in that, while it adds a previously unaddressed element, it does not accomplish what the naturalist wants: to proscribe nonnaturalistic beliefs on the basis of scientific evidence.

Philip Kitcher is an evolutionary naturalist who takes his own project to be epistemological. Though he is reluctant to applying adaptationism to every area of interest, he does believe that design and function can be brought about through 'blind'

²⁴⁰ Rea, p. 42.

evolutionary processes.²⁴¹ Kitcher is an ardent defender of a realist position, but Kitcher believes that scientific methods and findings are largely "nonepistemic," which means that it is a theory's pragmatic "impersonal goals" that matter and not the truth-functional aspect.²⁴² Kitcher flips flops on the issue of truth a little. He says that truth is not what he is interested in, since that is easy to get through logic, and that this truth is boring. He says, rather, that he is interested in "significant truth," but he even wants to downplay the 'truth' part of this phrase. When he feels pressed about science's ability to support realism Kitcher responds, "Perhaps, as I shall suggest later, what we want is significance and *not* truth."²⁴³ This means that Kitcher either regards all truth as purely vacuous logic or a property epistemically unavailable to the methods of science. If it is the second, which I doubt, then Kitcher is not a realist after all. If it is the first, then Kitcher has redefined realism, as we saw Bergmann do in chapter 2, to fit what he feels can be defended by science, namely truth as reliabilism rather than correspondence with reality.

Kitcher bases his picture of the relationship between epistemic goals and practical goals on the fact that different people weight the values of evidence differently, which precludes agreement on absolute truths on any methodology, but claims that ultimately the value "system" shared by all persons is the same. He explains:

My picture of the situation is illustrated by the following (obviously artificial) suggestion. Assume that there are two fundamental epistemic goals E_1 and E_2 , and a much larger set of fundamental (nonepistemic) practical goals P_1, \ldots, P_n . Each person's conception of value is given by an assignment of weights, $u_1, u_2, w_1, \ldots, w_n$. I imagine that

(i) The absolute values of all the weights are variable from person to person.

(ii) The *relative* values of the w_i vary from person to person.

(iii) The relative values of the u_i are constant: i.e., u_1/u_2 takes some k which is the same for (almost) all people.

²⁴¹ Kitcher, "Function and Design," *Midwest Studies in Philosophy: Philosophy of Science, Vol. XVIII*, p. 396, n. 2.

²⁴² Kitcher, The Advancement of Science, pp. 91-92.

²⁴³ Ibid., p. 94, emphasis his.

To sum up this idea in a simple way, we may suppose that people differ in their practical values, differ in their understanding of the value of the epistemic, but, insofar as they commit themselves to any epistemic projects, share the same fundamental value system.²⁴⁴

Something that makes Kitcher's position seem odd in light of his realism is that he is thoroughly Quinean in that he thinks all epistemology should be reduced to psychology. He has just finished arguing that most of our understanding of the efficacy of science takes place at the nonepistemic level, based on pragmatic impersonal goals, inciting images of Neolithic trial and error, and then he argues that, without psychology as a fundamental element, epistemology is basically positivistic logic chopping:

Despite what the logical positivists taught...rationality and justification are not simple matters of logical connection among beliefs. When psychology is left out of epistemology...we are offered the following picture: there are epistemic rules declaring that a subject who has received a certain stimuli and who believes that p is automatically justified in that belief (the belief is rational); other rules declaring that if the subject rationally believes that p and if q bears certain logical relations to p ..., then, if the subject believes that q, the belief that q is automatically rational. As the last type of example makes especially obvious, these rules may fail precisely because the justificatory connections are never made in the life of the subject.²⁴⁵

Kitcher says that the possibility of the subject not "appreciating" a logical relation forces epistemology into the realm of occurrent beliefs and behaviors based on the testimony of these beliefs. He writes, "The general moral is that epistemology should be *psychologistic*."²⁴⁶ The interesting thing is that, despite Kitcher's appeal to psychology for determining operant factors in belief formation, he does not deny the 'absolute truths' of logic, or that p and q, from above, stand in relations that have a truth-functional value in empirical reality, implying at least the existence of a correspondence theory of truth. He only doubts human ability to be in possession of the truth-functional values and, in addition, argues that we do not need them. Practical values within a conceded value

²⁴⁴ Ibid., p. 93, n. 2.

²⁴⁵ Ibid., pp. 183-84.

²⁴⁶ Ibid., p. 184, emphasis his.

system conjoined with a psychological account of why we form the beliefs that we form is enough, according to Kitcher, to support a naturalistic account of cognition and scientific realism. This may well be true. Kitcher has certainly offered us a powerful sketch of epistemology.

So what counts as 'rational belief forming processes' for Kitcher? Interestingly enough, his criterion for determining rational acceptance of a methodological system is very similar to the account of epistemic warrant offered by Plantinga in chapter 1. Remember that Plantinga's (EW) went as follows:

(EW) A belief has warrant for a person S only if that belief is produced in S by cognitive faculties functioning properly (subject to no dysfunction) in a cognitive environment that is appropriate for S's kind of cognitive faculties, according to a design plan that is successfully aimed at truth.²⁴⁷

Kitcher calls his criterion "The External Standard," (ES), and explicates it as follows:

(ES) The shift from one individual practice to another was rational if and only if the process through which the shift was made has a success ratio at least as high as that of any other process used by human beings (past, present, and future) across the set of epistemic contexts that includes all possible combinations of possible initial practices (for human beings) and possible stimuli (given the world as it is and the characteristics of the human recipient).²⁴⁸

The contexts of epistemic function and combinations of initial practices of Kitcher correspond roughly to the proper functioning of faculties in appropriate environments of Plantinga. Whereas Plantinga's warrant is successful only if the subject believes his project is approximating truth, Kitcher's subject can be comfortable with a greater success ratio of one belief over another. Since Kitcher believes that natural selection can produce complexity and the appearance of design there is no conflict with Plantinga's requirement of a design plan, though Kitcher's plan runs just shy of the 'truth' toward which Plantinga's is aimed. Of course, Plantinga's only achieves truth if

²⁴⁷ Plantinga, Warranted Christian Belief (New York: Oxford University Press, 2000) p. 156.

²⁴⁸ Kitcher, Advancement of Science, p. 189.

something acts in addition to natural selection to guarantee truth-approximating faculties, such as a creative God.

The supposedly naturalistic aspect of Kitcher's epistemology, as well as Quine's, is the introduction of the psychologistic element that makes room for relativism with regard to what is 'taken to be' 'truth' or compelling argument. Kitcher also follows Quine in accepting reliabilist justification for the success of science. But, interestingly, Kitcher's project is not very different from that of Plantinga's. The upshot is that a psychologistic project such as Kitcher's does not seem to proscribe the rational holding of nonnaturalistic beliefs, such as those of Plantinga. Even if we followed Kitcher's suggestions holistically, it does not seem that we would end up at any normative claims concerning the sole authority of the sciences for determining legitimate inquiry. In fact, Plantinga argues quite to the contrary that an epistemology based on successful scientific reasoning actually has the ability to support a supernaturalistic theism.

The questions that contemporary epistemological naturalists must answer is how naturalistic epistemology differs from traditional epistemology and to what extent they, through the sciences, proscribe nonnaturalistic beliefs. Whereas many have undertaken the first task with a great deal of success, the second task remains. Because the second task remains, and remains difficult, many naturalists have rejected the attempt to formulate a specific epistemology.

The Controversy over Epistemological Naturalism

Problems with epistemological naturalism take a number of forms. One is whether the project should be normative or descriptive. Another problem, or set of problems, concerns whether naturalized epistemologies can even address traditional questions about knowledge, or, whether, after a project has been sufficiently 'naturalized' those questions

163

are even intelligible. Another problem is whether and to what extent naturalized epistemologies are *practically* different from traditional epistemologies. We have seen that the main difference concerns which half of the epistemological project is given primacy (whether physical mechanism or cognitive mechanism) and the type of evidence allowed into analysis. But of course, nether natural epistemologies or traditional epistemologies deny that thoughts, beliefs, mental states, and reasoning strategies play key roles in the acquisition of knowledge. The fruitfulness of any epistemology is shown only by argument, and though the naturalistic dispositions mentioned in chapter two are evident in the work of epistemologists who are naturalists, it is unclear to what extent this is exemplified in their theories.

Since naturalism has defined its only relevant source for epistemic evidence to be obtained from natural science, the question of justifying an epistemological position gets cloudy. Laurence Bonjour says that the central problem with naturalized epistemology is that of justification. As an analytic thesis, epistemological naturalism is committed to the truth, however tenuous and well qualified, of the findings of natural science. But what is the epistemological justification for this whole-hearted acceptance? Notice that the claim, "We should only believe what can be scientifically proven," is self-defeating, since the statement itself cannot be scientifically proven. If you believe it then you need scientifically proven. But this assumes what is intended to be proven. So, the answer to the question of why choose to believe only what can be scientifically proven, is only pragmatic. Science has proven effective for 'doing things' in the past. Does this conclusion hold any negative implications for naturalism or epistemology when considered independently? Not at all. It just indicates that there might be a better characterization of naturalism than 'epistemological,' as I hope to show in chapter 4, when naturalism is construed as a worldview.

3.7: Methodological Naturalism

Methodological naturalism is naturalism intent upon determining the only legitimate methods of inquiry into reality, using the methods and findings of the natural sciences. Methodological naturalists do not typically defend specific epistemological or ontological theses for their projects. This is not to say that certain theses are not assumed or argued for under different circumstances, but that specific analytic theses or specific philosophical projects are not the defining characteristic of methodological naturalism. Methodological naturalists typically accept that the same project undertaken by science, that is, inquiry into the nature of the world, should be the project undertaken by philosophy, though with emphasis on the more abstract issues. Philosophy tends to become theoretical or conceptual science.

Methodological naturalists take their naturalism to be a feature of products of the project of science rather than defenses of 'naturalistic' positions. They sometimes qualify their position as naturalistic and then go on to make arguments that have nothing to do with naturalism or even philosophy specifically. Examples of such works include Paul Sheldon Davies's Norms of Nature: Naturalism and the Nature of Functions,²⁴⁹ where he does little more than define naturalism and then only allows it to be relevant for one chapter, Elliot Sober's collection Conceptual Issues in Evolutionary Biology,²⁵⁰ where all of the contributions derive from a naturalistic point of view, but none explicitly describe

²⁴⁹ (Cambridge: MIT Press, 2001, 2003). ²⁵⁰ 2nd ed. (Cambridge: MIT Press, 1994).

or defend it, and Wilfrid Sellars's *Naturalism and Ontology*, where he scarcely hints at what naturalism might be in his introduction only to never speak of it again.

The version of naturalism characterized by 'methodological' is somewhat trickier to define than the previous two. This has been to the advantage of some naturalists for defending this position. It's sometimes vague formulation leads critics on rabbit trails and straw men, which all but ignore some of the fundamental issues involved. The arguments invariably turn to the specific argument that the naturalist is defending rather than addressing the naturalistic presupposition on which it is based. The central feature of methodological naturalism is its emphasis on the explanatory function of philosophical arguments and the methods of science that support explanation. Naturalist Robert Pennock writes,

The methodological naturalist does not make a commitment directly to a picture of what exists in the world, but rather to a set of methods as a reliable way to find out about the world—typically the methods of the natural sciences, and perhaps extensions that are continuous with them—and indirectly to what those methods discover.²⁵¹

The most general and widely held characterization of methodological naturalism is the thesis that the methods employed in the empirical natural sciences are the only methods capable of generating legitimate knowledge. Since its main concern is the methods for obtaining knowledge, it is ultimately an epistemological question, but it is rarely couched as such. And methodological naturalists may not even accept the task of epistemological naturalism. In fact, it is a virtue of methodological naturalism that it does not adhere to any analytic thesis strictly. Pennock continues from above,

An important feature of science is that its conclusions are defeasible on the basis of new evidence, so whatever tentative substantive claims the methodological naturalist makes are always open to revision or abandonment on the basis of new, countervailing evidence. Because the base commitment of a methodological naturalist is to a mode of

²⁵¹ Pennock, Tower of Babel, p. 191.

investigation that is good for finding out about the empirical world, even the specific methods themselves are open to change and improvement...²⁵²

This commitment to the open-endedness of science gives methodological naturalism more *prima facie* support than the previous versions of naturalism. Unlike, for example, ontological naturalism, which makes "substantive claims about what exists and then adds a closure clause stating 'and that is all there is,"²⁵³ methodological naturalism holds its claims tenuously, just as the methods it employs. Because of this it might seem odd to characterize methodological naturalism as an analytic thesis at all. Its open-ended claims make it sound very similar to what we will define as a worldview in chapter 4. The aspect that holds it under the rubric of 'strict analytic thesis' is, again, the normative claim inherent to naturalism itself. The methods of the natural sciences, according to methodological naturalism, are the only legitimate methods of inquiry, even if those methods are ever changing.

Methodological Naturalism in Contemporary Use

Many in the methodological camp have disagreed with Quine's radical "replacement naturalism," on which epistemology is replaced by empirical psychology. Methodologists have attempted to avoid the dilemmas posed by philosophical theses. Every epistemological attempt in history was an attempt to combat skepticism. Quine thought the only way out was "replacement naturalism" by way of an argument that David Shatz calls the "argument from despair":

The traditional project of validating common sense and scientific beliefs in the face of the skeptical challenge has been, and is doomed to be, a failure; therefore, the project is best dropped; therefore, "epistemology, or something like it, simply falls into place as a chapter of psychology and hence natural science" (Quine, "Epistemology Naturalized," 82-83).²⁵⁴

²⁵² Ibid.

²⁵³ Ibid., p. 190.

²⁵⁴ Shatz, p. 117.

Quine and replacement naturalists like Kitcher, assume therefore, that there are only two options for true knowledge, *a priori* justification of a rationalist type, supported by pure reason, or a radical abandon to the pragmatic nature of contingent reality. The first option was a failed or unfruitful project; the second option is undesirable.

...[M]ethodologists are confronted with a dilemma. Either they can continue to insist that philosophers know *a priori* the principles of confirmation and evidence, concluding that the actual reasoning of scientists is cognitively deficient, or they can abandon the *a priori* status of methodological claims and use the performances of the past and present sciences as a guide to formulating a *fallible* theory of confirmation and evidence. Since the first option has an uncomfortable air of arrogance, it is hardly surprising that most responses to Kuhn have followed the latter course.²⁵⁵

In order to adhere to some version of integrative methodological naturalism, one must have a theory of justification that threads the eye of the dilemma. Shatz claims that just such a theory is found in a thesis called "dialectical naturalism".²⁵⁶ Instead of dropping the epistemological project altogether, and especially that of refuting the skeptic, a dialectic in the form of a debate takes place with the skeptic, using various philosophical means to show that appeal to empirical findings is not problematic with regard to justification.

In particular, you incur no vicious circularity by appealing to empirical data to validate the reliability of human faculties or to establish claims about the conditions in which beliefs are formed (viz., that they are formed in circumstances conducive to their being true); you do not fall into relativism; and you do not fall prey to specific skeptical challenges such as arguments based on the possibility of illusions.²⁵⁷

This dialectical approach seems to mirror Laurence Bonjour's "third alternative" with regard to the dilemma. He claims that this third option is what has been termed "inference to the best explanation" in contemporary theory. Instead of "(i) sticking stubbornly and perhaps dogmatically to one's initial, allegedly a priori precepts," or "(ii)

²⁵⁵ Kitcher, "The Naturalists Return," *Philosophical Review*, Vol. 101, 1992, p. 73, cited in Bonjour, "Against Naturalized Epistemology," p. 294.

²⁵⁶ Shatz, p. 120.

²⁵⁷ Ibid.

adopting what may seem to amount to an abandonment of philosophy altogether in favor of a kind of psychology or sociology of scientific practice," there is a "seemingly obvious" third option,

(iii) reconsidering one's initial *a priori* assessment in light of what scientists seem to be doing, while insisting that any acceptable mode of scientific reasoning must ultimately be able to be seen or shown to be rationally cogent in an *a priori* way that transcends the mere fact that it is employed in practice.²⁵⁸

Methodological naturalism seems most identifiable as a form of dialectical naturalism. No one who was partial to naturalism really took Quine's route, leaving justification behind; nor did they give up science for *a priori* theorizing, since they would also have given up the progress made through the demise of Classical Foundationalism and Verificationism, and would have missed out on the power of inference to the best explanation. Bonjour explains the historical context of dialectical naturalism:

What eventually happened, of course, was not an abandonment of *a priori* epistemology in favor of psychology or sociology, but rather the realization of a gradually increasing group of philosophers, beginning with Peirce, that the initial philosophical view was seriously oversimplified and that an *a priori* case (or at least apparent case) could be made for the kind of reasoning in question (what has come to be called "inference to the best explanation"). I do not mean to suggest that such reasoning is now entirely unproblematic or that the issues in question have been fully resolved. The point for now is just that this case illustrates a third alternative...²⁵⁹

If methodological naturalists have made headway with this 'third alternative,' without which previous philosophies of science have struggled, then what are we to make of epistemological or ontological naturalism? These are obviously more serious about an analytic thesis than methodological naturalists, but they do not prescribe a radically empiricist doctrine, relegating every claim, even logical claims, to the mercy of contingent science. The question is pertinent and, as we have seen, many naturalists choose an anti-justificationist stance claiming that the proofs and value of science and

²⁵⁸ Bonjour, "Against Naturalized Epistemology," p. 294.

²⁵⁹ Ibid., pp. 294-95.

claim that this includes the necessary rationality for the acceptance of a naturalist doctrine. This is, of course, the weakness of these theories. They are weak because they are left with only two options: (1) make claims completely consistent with the natural sciences, which deprives them of normative force with regard to epistemic claims about the scope of knowledge or reality as a whole, making their claims to science's total epistemic authority unjustified, or (2) claim that naturalism just is philosophy in the role of science, which makes it tautologous with scientific methods, and not naturalism at all, since conflicting worldviews are consistent with this claim. Methodological naturalism has more room to make use of scientific reasoning, arguing that the explanatory power of the methods of science is greater than traditional philosophical systems, and therefore deserves greater attention. The only question that is left is the justification of the normative claim that scientific methods are the only legitimate methods of obtaining knowledge. Their pragmatic stance toward the methods of science potentially undermines their central claim. Paul Moser and Keith Yandell provide three possible formulations of methodological naturalism:

(iv) *Eliminative methodological naturalism*: all terms, including empirically disputed terms (for example, normative and intentional terms), employed in legitimate methods of acquiring knowledge are replaceable, without cognitive loss, by terms employed in the hypothetically completed methods of the empirical sciences.

(v) Non-eliminative reductive methodological naturalism: all terms, including empirically disputed terms, employed in legitimate methods of acquiring knowledge either are replaceable, without cognitive loss, by terms employed in the hypothetically completed methods of the empirical sciences or are reducible (by, for example, definition, mutual entailment, or entailment) to terms employed in those methods.

(vi) Non-eliminative non-reductive methodological naturalism: some empirically disputed terms employed in legitimate methods of acquiring knowledge neither are replaceable by terms employed in the hypothetically completed methods of the empirical sciences nor are reducible to those terms, but the referents of these terms supervene upon those of the terms employed in the hypothetically completed methods of the empirical sciences.²⁶⁰

²⁶⁰ Moser and Yandell, "Farewell to Philosophical Naturalism," p. 9.

As with their characterizations of ontological naturalism, these formulas highlight shifts in perspective on certain entities that show up in scientific theories. The aspect to notice is the tendency to use science as a tool for proscribing from the realm of rational inquiry methods that are supposedly illegitimate. Given Pennock's definition of methodological naturalism above it seems unreasonable to think a methodological naturalist would presume a hypothetically complete aspect of the sciences that could determine something substantive with regard to inquiry. But, given that methodological naturalism remains an analytic thesis, this must be the implication of a normative claim concerning the 'only' legitimate methods of inquiry.

The Controversy Over Methodological Naturalism

The most prominent problem surrounding methodological naturalism is the inability of critics and proponents to keep the issues of argument clear. If an attack purportedly intends to undermine the naturalistic disposition of an opponent, the attack must be directed toward the relevant aspects of the opponent's naturalism. If it is methodological naturalism, the critic must either focus on the specifically naturalistic adherence to science as possessing the only legitimate methods of obtaining knowledge, or the use to which the theorist puts scientific knowledge in order to defend an explanatory or methodological function in his or her overall argument. What often happens is that the argument turns specifically to the issue at hand in the argument being offered rather than the naturalism that is supposedly the problem in the first place.

Alvin Plantinga begins an argument against methodological naturalism in his article, "Methodological Naturalism?" by identifying the position with 'provisional atheism.' "[Methodological naturalism] is the idea that science, properly so-called, cannot involve religious belief or commitment.²²⁶¹ This definition obviously colors the rest of Plantinga's attack on methodological naturalism, possibly, though I am not prepared to argue it, missing the point of *why* methodological naturalism might imply the rejection of religious belief. Interestingly, in reply to Plantinga, naturalist Michael Ruse does not clarify the problem:

I have characterized the notion—...as indeed I did in the Arkansas Creation Trial...— as an approach to the empirical world that demands understanding in terms of unbroken law (Ruse 1982, 1988, 1995, 1996). That is to say, it requires understanding in terms of regularities, which in some way or another we feel are more than mere contingencies, but rather part of the necessary succession of the empirical world. Neither I, nor anyone else, has ever insisted in our characterization of methodological naturalism that the necessity of law be interpreted in and only in some particular way. I myself have endorsed a neo-Humean position, seeing the necessity of laws as a natural regularity on which one imposes an evolutionarily derived psychological construction.²⁶²

Here we see strains of the methodological dispositions that we described early on

as foundational to naturalism. 'Unbroken law' and 'necessary regularities' imply the causal closure of the universe. There are hints at the priority of science over theory and, of course, a strong adherence to the natural sciences. Methodological naturalism is described as an 'approach'; it is a normative guide for conducting scientific research. Ruse also reminds us of the normative importance that Darwinism plays in theory. But nowhere do we hear him say anything about the methods of the empirical sciences or legitimate knowledge claims. What he does say, implicitly, is that all explanatory arguments must reduce to claims concerning causal closure within a system of unbroken law. Because he addresses the *explanatory* feature of causal closure, Ruse's position is technically conceived as a methodological position. Until he offers some reason to believe that a finding or method of science supports physicalism (which he does not) his explanation is not analytically naturalistic—it remains a presupposition.

 ²⁶¹ Plantinga, "Methodological Naturalism?" in Pennock, *Intelligent Design Creationism...*, pp. 340, 341
²⁶² Ruse, "Methodological Naturalism under Attack" in Pennock, *Intelligent Design Creationism...*, pp. 366-67.

Ruse does not appeal to any method of science, except explanatory reliance on a system of unbroken laws. But within science unbroken laws are part of the conditional *ceteris paribus* perspective on which investigation is based. So long as the laws have remained unbroken, or nothing new has been introduced into the system on which the laws can act, then we may predict X. But, of course, the anti-naturalistic claims of Plantinga are directed to the crack in the *ceteris paribus* clause: indeed, something *has* either broken the laws, or something (like matter or physical events) has been introduced on which the laws can act. And science is not the type of project that can make a judgment about these factors. And how is the naturalist to justify scientifically the claim that something like the resurrection of Jesus did not occur?

Therefore Plantinga has misdefined methodological naturalism and Ruse has presupposed it without criticizing Plantinga's bias only to defend himself through physicalism, which does not provide the necessary justification for a position supposedly supported by the sciences. The clarification of positions could enable arguments to be more fruitful. In addition, it remains unclear that any naturalistic position that I have defined has adequately met the demands of some form of justification for the normative claims involved.

An Unresolved Problem

Have I shown that naturalists hold the strictly normative claim that the only legitimate form of knowledge is scientific knowledge? I have at least shown how naturalists appeal to science above all else, and how they eschew traditional forms of philosophical analysis. I have also shown that they provide little by way of justification for naturalism apart from the success of the sciences. But do they hold more than a mere strict adherence to science? Do they hold, in addition, the normative claim, proscribing other possible forms of inquiry that may produce legitimate knowledge? Let me quickly review some comments from naturalists.

Concerning a priori theorizing, Hilary Kornblith writes, "It is of little concern to defenders of such views that there is no more place for these things in contemporary scientific theory than there is for phlogiston, entelechies, or telekinesis."²⁶³ In addition she writes, that there is, "...no extrascientific route to metaphysical understanding."²⁶⁴ Jerry Fodor thinks that we must presuppose a reduction of some form to empirically available structures. He writes, "...what we want at minimum is something of the form 'R represents S' is true iff C where the vocabulary in which condition C is couched contains neither intentional nor semantic expressions."²⁶⁵ Naturalist Keith Parsons agrees with Philip Johnson when he writes, "Naturalism does not explicitly deny the mere existence of God, but it does deny that a supernatural being could in any way influence natural events, such as evolution, or communicate with material creatures like ourselves."²⁶⁶ Naturalist Philip Pettit, in 1992, wrote that, "Naturalism imposes a constraint on what there can be, stipulating that there are no nonnatural or unnatural, praeternatural or supernatural entities." Naturalist Frederick Schmidt, in 1995 wrote, "Ontological naturalism is the view...that only natural objects, kinds, and properties are real." In addition to what I have already covered, naturalist William Rowe writes, "As a philosophical position, naturalism holds (1) that the only reliable methods of knowing what there is are method continuous with those of the developed sciences..."²⁶⁷ It seems,

²⁶³ Kornblith, p. 40.

²⁶⁴ Ibid.

²⁶⁵ Fodor, "Semantics, Wisconsin Style" p. 32.

²⁶⁶ Philip Johnson, Darwin on Trial, pp. 116-17.

²⁶⁷ William L. Rowe, "Theological Naturalism," *Cambridge Dictionary of Philosophy*, p. 911, emphasis mine.
then, that we at least have testimony to a central continuity among naturalists, namely that the methods of the natural sciences are the only allowable methods of obtaining knowledge.

After examining naturalism as an analytic thesis, we see that there are many unanswered questions concerning its justification as a unifier of science and it autonomy in explaining reality as a whole. Rosenberg says that naturalism has yet to bridge the logical gap between causation and justification. Material causation provides no grounds for belief.

In the empiricist's hands, justification is a logical relation (employing deductive or inductive logic) between evidence (sensory experience) and conclusion, and logic is a matter of meanings. Naturalists, or at least Quineans, cannot help themselves to this way of drawing the distinction between causation and justification. Yet draw it they must. Without recourse to a "first philosophy", some body of *a priori* truths, or even definitions, naturalism can only appeal to the sciences themselves to understand the inference rules, methods of reasoning, methodologies of inquiry and principles of epistemology which will distinguish between those conclusions justified by evidence and those not justified by it.²⁶⁸

Rosenberg goes on to explain that if naturalism appealed to any justification apart from pure scientific practice and/or findings, it would be reasoning in a circle. "Naturalism is thus left with an as yet unfulfilled obligation."²⁶⁹ Some naturalists recognize this intrinsic flaw of naturalism. Quentin Smith actually concedes that every attempt at a justification for naturalism has been defeated by theists.²⁷⁰ Alex Rosenberg acknowledges that the naturalist has an "unfulfilled obligation,"²⁷¹ but things are hardly as bleak as all that. If nothing else, an occurrent belief in the falsity of supernaturalism is *prima facie* justification for naturalism regardless of the lack of any cognitivist foundation. They may still seek out a justification or work within the framework of a

²⁶⁸ Rosenberg, *Philosophy of Science*, p. 154.

²⁶⁹ Ibid.

²⁷⁰ Quentin Smith, "Metaphilosophy of Naturalism," Philo: A Journal of Philosophy, Vol. 4, No. 2, p. 5.

²⁷¹ Rosenberg, Philosophy of Science, p.

broadly naturalist worldview. But what might this be? It is certainly not a philosophical position in terms of a reasoned thesis. But such a thesis is rarely demanded at the individual level.

If there is such a thing as basic beliefs for which no independent justification is required, and an individual, seeking information about the world within a system of belief that held only empirical data as basic evidence, that individual (we typically say) would be warranted in holding that system of beliefs. The warrant involved here is not specifically "rational" in the traditional foundationalist sense, since the system was not chosen based on any evidence, and not justified logically, and since there are no "rational" grounds offered because of which the beliefs are held. But this definition of what is to count as "rational" was found to be too strict long ago. A belief is warranted if it is acquired in a reasonable way, as we said in chapter 2, though the qualification 'reasonable' may differ from circumstance to circumstance. The usefulness of a warranted belief tends to be derived from scientific reasoning and practice. This makes naturalism viable if found to be more practical than any other position. I am calling naturalism as a warranted belief a worldview, since all worldviews are the culmination of a set of relevantly basic beliefs. In the next chapter I will argue that naturalism has never been formulated into a successful analytic argument and that its strict adherence to science actually disallows such an argument in favor of naturalism. This means that characterizing naturalism as a worldview is the only plausible alternative. I will examine the structure of naturalism as a worldview and argue that naturalism retains plausibility on this route, but that, despite this plausibility, there are some implications that might be less than desirable.

... the native naturalist's tendency to thrust her head in the scientific sands when encountering foreigners from distant cognitive lands—and then to malign their unscientific epistemological practices—smacks of an imperialism...

(Marc Alspector-Kelley, "Empiricism Naturalized," fn. 15)

Chapter 4: A Critique of Naturalism

4.1: Critique of Naturalism as an Analytic Thesis

The central question for naturalism as an analytic position is whether science, in method or result, is sufficient to the task of deductively justifying the claim that science is the only legitimate method of inquiry. Science has proven itself through the working out of science and I agree that we cannot be discouraged by the circularity of such a justification. Quine argued that all epistemological questions should be relegated to the field of scientific psychology, which, as a branch of science, could still enlighten us to the manner by which we come to know. He defends his suggestion against the objection of circularity:

Such a surrender of the epistemological burden to psychology is a move that was disallowed in earlier times as circular reasoning. However, such scruples against circularity have little point since we have stopped dreaming of deducing science from observations. If we are out simply to understand the link between observation and science, we are well advised to use any available information, including that provided by the very science whose link with observation we are seeking to understand.²⁷²

Michael Rea also defends the naturalist against circularity with regard to the efficacy of

science when he allows that science might warrant the qualification 'self-justifying':

I must admit that it is hard to accept the idea that science, or indeed any discipline, could be self-justifying. But it appears that something like this must be accepted by naturalists and nonnaturalists alike. After all, nobody believes that we have infinitely many sources of evidence, each being certified as reliable sources at a higher level. Thus, naturalists and nonnaturalists alike must believe that at least some sources of evidence are appropriately trusted even in the absence of evidence certifying their reliability. ... We might say, then, that at least some sources of evidence stand in no need of justification. But we might just as well speak in terms of self-justification, where a source is said to be self-justifying just in case (a) it is trusted in the absence of evidence for its own reliability, and (b) it delivers consistent outputs and fails to generate evidence that leads to self-defeat.²⁷³

²⁷² Quine, "Epistemology Naturalized," reprinted in American Philosophical Naturalism in the Twentieth Century, ed. John Ryder (Amherst, New York: Prometheus, 1994) p. 300.

²⁷³ Rea, World Without Design, p. 61, emphasis his.

Rea goes on to say that, in the case of naturalism, scientific findings do not confer justification upon naturalism if construed analytically, though, importantly, they do not generate information that eliminates them as a source of evidence. The crucial point for the naturalist is that scienfitic evidence has done nothing to eliminate the claim that science is the only legitimate form of epistemic evidence, thus warranting naturalism as a worldview. As we saw in the section on realism (2.7), it might be the case that Plantinga's evolutionary argument against naturalism gives us good reason to doubt that science is a source of *epistemic* evidence at all. But my claim concerning that argument was weaker than Plantinga's in that I think Plantinga's argument defeats the belief that science, unaided by some additional warranted belief, is or could be a *realist* program. If I am correct, then we may take it that science is self-justifying in just the way Rea defines it above, and the way Ramsey defined reliability in section 2.7 (as a product of evolutionary development based on *reliable* behavioral interaction with an environment). But this leaves us with a pragmatic program, just as the positivists recognized.

Now we are back to the question of why it matters whether science is a realist program or not. This does not entail any defeat for science or *reliable* (as opposed to truth-approximating) cognitive function when both are narrowly conceived as mechanisms for determining consistency within a goal-specified scope of research interest. Most naturalists, however, make the additional claim that science is the only legitimate method of coming to *know* the world, a concept that implies *truth* in the classical sense. Naturalists who are philosophers generally accept that truth is a necessary component of knowledge. But if it is the case that science is self-justifying within its goal-specified scope, then nothing guarantees that it is self-justifying for *all* such goalspecifying scopes. This is especially the case with the goal of truth-approximation, since it is a fallacy to assume that what is systematically empirically successful is also true. And nothing guarantees that it, then, is the only legitimate method of obtaining knowledge. Systematic empirical success does show us however that science is one legitimate method for the goal-specified purposes of prediction and manipulation, especially within the realm of physical entities, which is the central specified goal of scientific research. Both Quine and Carnap quickly realized that a program that cannot connect to the truth-conditions of the world becomes a constructivist enterprise. Concerning Carnap's *Logical Reconstruction of the World*, Quine wrote:

If Carnap had successfully carried such a construction through, how could he have told whether it was the right one? The question would have had no point. He was seeking what he called a *rational reconstruction*. Any construction of physicalistic discourse in terms of sense experience, logic, and set theory would have been seen as satisfactory if it made the physicalistic discourse come out right. If there is one way there are many, but any would be a great achievement.²⁷⁴

Quine's statement is referring to Carnap's logically reductive program that everyone came to understand was physically impossible. But the statement can be extended to all pragmatic programs, since pragmatism typically implies a certain amount of constructivism. Without some additional scientific finding—perhaps a "meta-finding" that indicates something about the system of investigation as a whole²⁷⁵—there is no scientific evidence available to analytically justify a naturalist's claim to realism. In addition, if science is a pragmatic program, as successful as it is and may yet become for its purposes, the naturalist has no room to claim an *exclusive* role for science, at least not analytically. Naturalist Marc Alspector-Kelley concurs in this regard:

²⁷⁴ Quine, "Epistemology Naturalized," p. 300.

²⁷⁵ Note that I make no claims as to what a 'meta-finding' might consist of. The concept that comes to mind is a theoretical argument to the best explanation based upon relevant physical data. It seems to me that such an argument must presuppose naturalism as a worldview in order to construct a theory that would support naturalism as a worldview, thereby constituting a circular argument.

... one might contend that science stands in no need of such external validation, but insist that without it science enjoys no unique significance that is not enjoyed by other forms of cognitive life. Science presents us with a wealth of opinion, but it is not the only institution that does so; there are, for example, a variety of alternative religious worldviews. I might agree that science stands in no need of philosophical validation only because no such alternative requires it. I might then proceed to adopt the scientific standpoint, perhaps as in keeping with local tendencies, while recognizing the adoption of other standpoints-perhaps in keeping with tendencies in other localities-to be equally legitimate.276

Alspector-Kelley immediately follows with, "That is not naturalism." Naturalism, he says, is the "endorsement of science's authority over other forms of intellectual life."²⁷⁷ The naturalist considers science the "best measure of right opinion."²⁷⁸ He says that naturalism needs something, in addition to the respected success of science, to justify naturalism, yet the naturalist, in strictly adhering to the open-ended posture of science,

rejects any such addition:

... first philosophy would at least have provided grounds for science's authority: science would enjoy an authority derivative from the authority of the philosophical higher court and its favourable judgment.^{279[16]} But without such external credentials, it is hard to understand why the respect she accords the scientific endeavor is deserved. What, in the absence of first philosophy, renders the authority of science legitimate rather than despotic? To say that science is the best measure of right opinion is to apply a standard of some sort to the scientific endeavor, against which it measures up. But the autonomy of science, which distinguishes the naturalist from the first philosopher, seems to rule out the very possibility that such a standard is available.²⁸⁰

Alspector-Kelley says the naturalist faces a sort of Euthyphro dilemma. The problem comes back to that of circularity. The naturalist considers science to have earned her intellectual respect, but if science has no independent standard of first philosophy it is difficult to see how this respect could be earned. "The authority of science upon which the naturalist insists looks either despotic or arbitrary without such a standard; but the naturalist, no more than Euthyphro, does not intend science's authority to be despotic or

²⁷⁶ Alspector-Kelley, "Empiricism Naturalized," p. 13.

²⁷⁷ Ibid., p. 14.

²⁷⁸ Ibid., emphasis his.

^{279[16]} It would, of course, then behoove the first philosopher to identify the source for the philosophical court's authority. [Part of quote text.]

²⁸⁰ Marc Alspector-Kelly, p. 14, emphasis mine.

arbitrary."²⁸¹ It is the "interaction" of the naturalist's adherence to both the *autonomy* of science and the *authority* of science that constitutes a dilemma similar to that of Euthyphro.

A philosopher could hold that science has complete autonomy—that is, the complete rejection of *a priori* philosophy—if it conceded that science had no "epistemic significance" and precisely because he acknowledges that such a strict validation is not available. This philosophy would then live content among, "a variety of alternative religious world-views." But this is, again, "not naturalism," according to Alspector-Kelley. Naturalism is insistent upon the addition of the, "endorsement of science's authority over other forms of intellectual life."²⁸² This, of course, places the naturalist in the position of being critical of worldviews not in accord with the epistemic content of science, even those that are not specifically *a priori* in nature. But Alspector-Kelley, a naturalist himself, argues that first philosophy of some sort is required to justify why science would "deserve" such an honored epistemic status.

The Euthyphro-type dilemma should be clearer now. In Plato's dialogue, Socrates questions whether that which is pious is so because it is loved by the gods or whether the gods love what is pious because it is by nature pious. The conflict comes when Euthyphro considers that the gods must be the final authority, but that in choosing what to love, that which is pious is then arbitrary, and even different from god to god. Euthyphro does not want to admit that the gods choose arbitrarily and wants to say that the gods love that which it is right to love. On the other hand, if the gods appeal to something that is by nature pious, then they admit that they are not the final authority on such matters.

²⁸¹ Ibid., p. 15.

²⁸² Ibid., p. 14.

Similarly, the naturalist considers her alignment with science rather than with other cognitive endeavors to be appropriate because, like Euthyphro, she considers science to have earned her respect in such as way as to legitimize the authority she ascribes to it. But without such an independent standard as the first philosopher purports to offer, it is hard to see how that respect could have been earned. The authority of science upon which the naturalist insists looks either despotic or arbitrary without such a standard; but the naturalist, no more than Euthyphro, does not intend science's authority to be despotic or arbitrary.²⁸³

A naturalist needs additional justification to make her claims rationally authoritative. By "authoritative" I mean precisely what Alspector-Kelley means—that naturalism has an analytic connection to science to the effect that science has the final say about the nature of reality. But to obtain this justification she would have to step beyond the bounds of science, which would undermine her naturalism; and then it seems naturalism's adherence to science would be purely arbitrary and without authority. But this is far from what the naturalist desires:

The naturalist cannot be accused of inconsistency if she admits that her alignment with science is arbitrary, that this is merely how she has decided to proceed in light of first philosophy's downfall, and that others are free to react in other ways. But that is, again, not the naturalist's view. She is not merely engaged in an autobiographical description of her reaction to the fall of first philosophy. She also *recommends* that philosophy be pursued in alignment with science, that this is the *right*, or the *best*, way to proceed. But that normative judgment seems to require a standard against which science (and other pursuits) is measured, a standard which the downfall of first philosophy itself seems to render unavailable.²⁸⁴

Quine thinks that there are only two options available for the justification of science: a rational reconstruction, in the spirit of Carnap, or psychological analysis. What Quine fails to see is that there are any number of competing options for the project. Just because a Carnapian reduction failed, nothing guarantees a default to psychologism. "...epistemology could fall into place as a chapter of Zoroastrian mysticism, or Christian fundamentalism, or Pythagorian numerology, or The failure of the first-

²⁸³ Ibid., p. 15.

²⁸⁴ Ibid., p. 16.

philosophical project does not in itself imply that epistemology must be embedded in scientific psychology instead of within one of these alternative traditions."²⁸⁵

Alspector-Kelley attempts to overcome the Euthyprho Dilemma of naturalism by adding empiricism to the naturalist's claims. He characterizes the empiricism that he needs as a doctrine obtained purely through empirical data and not a first philosophical reduction, which would merely restate the Euthyphro problem. This type of empiricism, when added to naturalism, explains that all information ultimately begins with sensory experience and that, with an empirical epistemology being the only one available, the naturalist is rationally justified in holding both the *autonomy* and *authority* of science.

What Alspector-Kelley does not seem to realize is that he is making the assumption that an empiricism of the kind he is prescribing will naturally (no pun intended) work *in favor* of naturalism as opposed to in favor of some anti-naturalistic doctrine. But it is obvious from the twentieth century work in analytic philosophy of religion, especially scientific theologies like the contemporary work of biophysicist, theologian, and philosopher Alister McGrath,²⁸⁶ that empiricism, as Alspector-Kelley describes it, may not be restricted to use by the naturalist. Also, in making this move, Alspector-Kelley admits to shifting in the direction of pragmatism and away from realism, though he does not admit it specifically. He is moving the weight of his evidence into one horn of the Euthyphro problem. Instead of seeking analytic justification, he wants to say that empiricism provides broadly inductive justification. He wants to keep the normative claim, as he said, and supplement the philosophical justification with a broadly empirical one. By restricting all of his evidence to perceptual evidence, it is clear

²⁸⁵ Ibid., p. 17.

²⁸⁶ Alister E. McGrath, *The Science of God: An Introduction to Scientific Theology* (Grand Rapids, MI: Eerdmans, 2004).

that he incurs the skeptical threat of anti-realism. For an example of his implicit admission of this, he employs an example similar to that of Plantinga, which I explained in section 2.7, of how perceptual information can be reliable, yet false in a significant sense.

He explains that, when faced with minor perceptual illusions, such as the perception of relative distance affected when we are observing underwater, we are provided a narrow scope of information [what he labels "information_i"] for which we can adjust our normal mode of interpretation to account for error. But when perceptual content must convey a "message" *via* representation [what he labels "information_s"], the correlation between perceptual faculties and the message must be much more strict to count as 'true' rather than merely reliable:

Information carried by representations in this more robust sense is information_s. Transmission of information_s depends, not only on a channel from one system to another, but also on the "content" of the "message" arriving at the receiver. It therefore requires that the end result of the information transmission be a representation whose status as such is independent of the information_i relation in which it stands with the source, so that it might still be uninformative_s or misinformative_s even while being informative_i. In the perceptual case, it is not enough that an information_i channel exists between states of the perceiver and of the world. The states of the world must perceptually seem to be as they in fact are; the perceptual "message" must be accurate.²⁸⁷

It is unclear to what form of "accurate" Alspector-Kelley might be referring when he says that the message "must be accurate," since he agrees that there is no extrascientific standard of accuracy, and since he agrees that a perception may be substantively misinformative while being largely reliable. He must presuppose that there is a certain "way the world is" that is objective and fixed, constituting "truth" in a substantive classic philosophical sense, while acknowledging science's, and thereby our, perceptual inability to capture nature "as it is." This is, of course, what has lead many

²⁸⁷ Alspector-Kelley, p. 26, emphasis mine.

postmodern philosophers to reject classical notions of truth. Alspector-Kelley seems torn as to whether he should relinquish science as a realist project, though he seems to argue that reliability somehow substitutes for the classical notion of truth. Many seem sympathetic to his tendencies on this matter.

Positively, naturalists have not relinquished the notion that there are truth conditions about the world and that they are knowable, they have just failed in their attempts to define the correspondence relationship in a satisfactory manner. This has lead many naturalists to perceive science as a pragmatic project and claim that the usefulness of science approximates truth to the exact degree we need, though they have no analytic justification for the connection between the concepts.

In my research Alspector-Kelley does the most comprehensive job of defending naturalism from an analytic standpoint. He admits the weaknesses of naturalistic claims and offers a well-formulated defense in favor of naturalism. Ultimately I think he fails. The introduction of empiricism does not offer direct support for naturalism in the way he wishes. Many anti-naturalists, like van-Fraassen, hold empiricism without inconsistency. Some, like Richard Swinburne, hold empiricism alongside a supernatural faith. In addition, Alspector-Kelley's naturalism, after the introduction of empiricism, places epistemology at the mercy of sensory perception, leaving us with the classic question concerning truth-conditions about the world, which so many naturalists wish to retain in their philosophy—including Alspector-Kelley.

With this final analysis out of the way I can now explain why an analytic justification for naturalism is destined to fail. If science is self-justifying, and if, in being self-justifying it does not preclude the knowledge claims of competing or mutually

consistent traditions, what reasons do we have to accept the naturalist's claim that science is the only legitimate mode of inquiry?

To evaluate the question we start with naturalism's central claim:

(1) Science is the only legitimate method of inquiry, eschewing first philosophy and nonphysical causation. [A naturalist holds both the *autonomy* and *authority* of science.]

This claim is supposedly follows from or is warranted by the immanently reliable and extremely successful program of natural science. Naturalists accept science as selfjustifying and I indicated that this need not be problematic, so long as we allow that science consists in a methodology of revision that at least meets Rea's criteria above.²⁸⁸ But the success of science is typically attributed to the reliability of human experience. If this is the case, then the naturalist is, by a transitive relation, committed to the reliability of experience.²⁸⁹ Naturalism is not undercut by this adherence, since experience is taken to be necessary for the scientific process. This gives us the statement:

(2) The enduring success of science as a mode of inquiry into the physical world is based upon an adherence to the reliability of the inquirer's experiences of and/or within the world.

In contemporary science, experience cannot be restricted to directly testable, sensory perceptions. From entities described in formal theoretical physics to the everyday experience of time and memory, the search for a criterion to reduce all statements to sense data has been abandoned. This means that the character of contemporary science includes the following beliefs:

(3) Experience is foundational to science.

²⁸⁸ Rea says that a program is self-justifying if it (a) it is trusted in the absence of evidence for its own reliability, and (b) it delivers consistent outputs and fails to generate evidence that leads to self-defeat.

²⁸⁹ A transitive relation is defined as, "For any three things, if the first is equal to the second, and the second is equal to the third, then the first is equal to the third." (Klenk, *Understanding Symbolic Logic*, p. 354). If A, then B. If B, then C. Therefore, If A, then C. If naturalism is dependent upon the success of science, and the success of science is dependent upon the reliability of experience, then naturalism is dependent upon the reliability of experience.

(4) All attempts to restrict experience to multiple, independently attestable, testable methods (strict empiricism, positivism, e.g.) have failed because they always underdetermine an experience relevant to experiment.

(5) Science makes progress in spite of our inability to prove some form of reductionism.

(6) Therefore, nonempirical, or indirectly empirical, modes of experience are allowable into scientific theorizing, i.e. reliability of memory, belief in other minds, perception of time, intentional states, scientific reasoning which includes argument to the best explanation, etc.

As we have said, science is composed of the classical forms of logic and mathematics plus all the major disciplines labeled 'science' in the university. This means that the

naturalist is also appealing to science as 'the sciences':

(7) Science includes all forms of valid reasoning and mathematics and those disciplines found within the contemporary academy.

A current understanding of science is what supposedly rationally implies or

warrants belief in (1). A contemporary adherence to science includes statements (2)-(7).

If the naturalist takes it that (1) is rationally implies by science then the naturalist's

central argument must be something like:

(8) Contemporary science, which includes theses (2)—(7), implies (1).

If (8) is accurate then either:

 $(8.1) [(2) \cdot (3) \cdot (4) \dots] \rightarrow (1)$

or

(8.2) (2) v (3) v (4)... \rightarrow (1)

But (4) removes the possibility of proscribing any claim before it is examined by science.

This is consistent with naturalism's rejection of *a priori* philosophical constraints on inquiry. This means that all experiences are possibly valid, though they must withstand the scrutiny of scientific reasoning and leaves us with the statement:

(9) Without being able to differentiate *a priori* between a legitimate experience and an illegitimate one, science allows all possible experience into *possible* scientific scrutiny, including Alspector-Kelly's examples, "Zoroastrian mysticism, or Christian fundamentalism, or Pythagorian numerology," as well as first philosophy and nonphysical causation.

(9) presents no special problem for contemporary naturalism since most claims to inquiry beyond science have been proven false, even though they were theoretically possible before investigation. Therefore, if someone claims any special privilege though clairvoyance, the claim is put to the test of scientific reasoning. Since most unscientific 'systems of inquiry' have proven extremely unreliable, the naturalist has increased warrant for (1) and (8). But apart from the already established results of science, the naturalist can make no claims. Therefore, if there are any methods that exist beyond the scope of science that purport to offer knowledge, science can make no claims about them, and therefore naturalism could make no claims about them. Therefore naturalism cannot make claims beyond the scope of what science can detect.

As in our earlier example, if a machine detects only blue objects, it does not have the capacity to make justified claims about objects of other colors. If it detects objects that are not blue, but does not assign color to them, then it may claim that there are objects that are not blue, but it cannot claim that there are objects of other colors besides blue. If naturalists appeal to science to claim that nothing exists beyond science, it is like appealing to a blue object machine in order to claim that no other colors exist, or no other objects exist. The scope of the structure does not support the claim. To say that it does would be to appeal to the argument from silence.

(2)—(7), individually or conjunctively, do not imply (1). This means that (2)—(7) are compatible with \sim (1). If (8.1) or (8.2), then (1). Yet both (8.1) and (8.2) are compatible with \sim (1):

(10) $[(8.1) v (8.2)] \rightarrow [(1) v \sim (1)]$ Therefore, since science has given us no deductive reason to accept (1), the naturalist's analytic argument fails. The naturalist might agree that this is the case if we were attempting a strict reduction to observable entities, but that is not the character of contemporary science. We take relevant evidence and make explanatory claims and postulate entities that are continuous with the data we have. These entities are not beyond science in a strict sense, but they are conducive to laboratory controls either. So, in one sense scientists can employ scientific reasoning and extend scientific claims beyond data. However, I arm not arguing against this. This rebuttal does not tell against my argument. My argument claims that since the naturalist restricts knowledge to science, however broadly construed and stipulated to include theoretical physics but leave out, for example, Cartesian souls, if there were anything beyond the scope of this science, then science could make no claims about it, and therefore naturalists cannot say that science is the 'only' method of inquiry into the world.

To this the naturalist might respond that I should come down out of epistemological space, and that, he could concede this point strictly, but pragmatically it makes no serious strike against naturalism. All that my argument might show is that naturalism does not follow strictly from any specific claim of science, but that does not eliminate the possibility of the naturalist being warranted in holding (1). Most unscientific theories that are suggested (as we have mentioned throughout things like clairvoyance or telepathy) are available to science in a practical sense, and science has shown them to be unreliable, so that, even if they were true to some mediocre extent, or useful to believe in some personal or private extent, science is certainly immanently more useful. Therefore, according to the naturalist, without logic-chopping things to death, naturalists can still claim that science is the only legitimate—in the sense of being the most reliable—tool for inquiring into the nature of the world. It seems I now have done a great deal to support naturalism rather than defeat it.

4.2: An Exposition of Naturalism as a Worldview

We must ask, in what way do naturalists hold that science warrants belief in naturalism? I said earlier that, current understanding of science is what supposedly rationally implies or warrants belief in (1). We saw that science does not rationally imply naturalism. But in what way could it warrant belief in naturalism? The naturalist has only two choices:

(11) Current scientific findings legitimate naturalism's central claim.

or

(12) Current scientific findings legitimate the claim that science is a successful program for controlling and manipulating the world, and, for most naturalists, obtaining knowledge.

The problem here is twofold. We know that (11) is false. No scientific finding or collection of scientific disciplines provide evidence to the effect that naturalism is true. And (12) is not naturalism. Naturalism makes a specific normative claim that science is authoritative, as Alspector-Kelley explained, "over other forms of intellectual life." The success of science—its universal applicability, its compelling evidences and methods, is usefulness in all aspects of life—is available to every consistent worldview. A Buddhist, Hindu, and Christian may, and in some sense must, and in some sense do, all adhere to the powerful tools of science and the view of the world it defines. The questions are, as they have perennially been, is science all there is, and how can we know? To the first question the naturalist wants to answer affirmatively, whereas the Buddhist, Hindu, and Christian want to answer negatively. Answering the second question is much trickier. But this is not specifically the question I have raised earlier. I want to know whether the

naturalist is *warranted* in believing in naturalism, and whether science provides this warrant.

Remember that warrant means broadly inductive justification as opposed to the more strict analytic justification I attempted earlier. I noted earlier that someone is warranted in their belief so long as they did not form it in an irrational manner, and may hold the belief until presented with defeaters to the effect that the belief is irrational. This means that, so long as a philosopher feels that he is operating within a cognitively favorable environment and it seems rational to believe that naturalism is true, then he is warranted in believing naturalism until something is brought to his attention that would make him think otherwise.

This significantly changes the philosophical approach to the epistemic question. The naturalist cannot preemptively reject anti-naturalistic positions. But neither can antinaturalists preemptively reject naturalism. This means that there is nothing intrinsic to naturalism that is contradictory or self-defeating at the broadly inductive level of investigation. Since few philosophical positions begin from any more solid foundation than that of broadly inductive investigation, there is no reason to think that we must demand a stronger proof.

Principles of epistemic warrant rely on broad categories of evidence in the perceiver's life including occurrent beliefs (or "seemings"), childhood environment, education, and personal experiences with those who agree or disagree with the perceiver's basic presuppositions. If this type of evidence is not included in contemporary science, then the naturalist is appealing to a nonscientific source of evidence for knowledge concerning belief in naturalism. However, we have already said that science

presupposes that human experience is generally more reliable than not, and that, except by stipulation, naturalists cannot excise any relevant experience from possible scientific scrutiny. And even though specific experiences such as occurrent beliefs and childhood experiences have proven unreliable in scientific discourse, they remain part of a broader category that has proven reliable more often than not, and thus stand as possible form of justification for belief in naturalism. This means that anti-naturalists have no more reason to exclude experiences that would lead to a belief in naturalism any more than naturalists have for excluding those that lead to belief in, say, theism.

A naturalist may hold that he is warranted in believing naturalism in two ways:

(13) Current scientific findings warrant belief in naturalism.

or

(14) Naturalists are epistemically warranted in believing in naturalism's central claim.

There do not seem to be any scientific findings that add support to naturalism. Most scientific findings are directed at specific questions that are not significantly epistemic. This means that a naturalist cannot point to something within a scientific discipline, or to a discipline as a whole or a group of disciplines, and say, "That's why I'm a naturalist." In addition, for (13) to be true, science must provide evidence that principles of epistemic warrant are reliable producers of knowledge. We might ask with Moser and Yandell, what principles of epistemic warrant combine with the empirical sciences to justify naturalism? The principles of empirical science logically permit that naturalism is unwarranted. This question remains contentious at several levels, namely, according to Alvin Goldman: meta-epistemic, substantive epistemic, and methodological epistemic levels (Goldman, 1994). This means that we currently have no way to address (13) and must leave it open to future investigation. This means that (13) does not currently offer much hope in the way of warranting naturalism.

(14) is much more promising. Broad epistemic warrant is actually a naturalistic approach to epistemology that relies upon a perceiver's beliefs concerning whether his interactions with the world have been largely historically reliable. If it is the case a philosopher feels that his experiences have been more accurate than not and that these experiences combine to predispose him to the belief that science is the only legitimate form of epistemic evidence, then he is warranted in believing naturalism's central claim. This means that it is easy to see how a philosopher might feel (14) is true. This means that (14) then provides a relevant, epistemically acceptable starting point for a naturalist to pursue philosophical inquiries through the sciences.

Since we have followed the epistemic landscape away from attempts to analytically disprove naturalism, concluding that naturalism can possess broadly inductive epistemic warrant, just as any acceptably formed worldview does, we must now consider whether there are any reasons to reject naturalism—that is, we must determine whether there are any substantive defeaters for naturalism. The criterion that I have to overcome to show that naturalism is untenable is the one mentioned in the quote from C. S. Lewis in the title section of chapter 3: "...if any one thing makes good a claim to be on its own, to be something more than an expression of the character of Nature as a whole then we have abandoned Naturalism." I have to offer some reason to think that something either prohibits the naturalist from being warranted in believing science is the only method of inquiry, or show that there is something the naturalist accepts that conflicts with the claim that science is the only legitimate method of inquiry. To do this I might offer examples of problems in philosophy and science that scientists have yet to solve, like that of consciousness, or the issue of realism and truth, or even altruism, on an evolutionary framework. Lewis himself offers, as a possible example, the fact that we possess rational thought and are compelled (he argues that deductive proof holds a causal relation to the knower) by deductive premises to their conclusions as an example of something inexplicable on a naturalistic worldview. But none of these, I think, would be particularly compelling. The reason is that one of the virtues of the scientific process is that it always has puzzles left to solve and it retains an open-ended posture toward these problems, allowing for unique and novel solutions at any given time.

4.3: Defeaters for Naturalism as a Worldview

The naturalist takes pride (justifiably) in the fact that science could possibly answer all these questions. Therefore, merely identifying unsolved problems does not undercut or significantly rebut warranted belief in naturalism, even if we have shown so far that it is only warranted from silence. The solution lies in identifying specific elements of reality that are obvious enough to constitute evidence and yet which arguably lie outside the scope of substantive scientific investigation—though, of course, not outside the scope of solid reasoning processes which have proven scientifically valid. I will first show that the open-ended posture toward future uncertainties prohibits naturalists from making the normative claim that science is the *only* legitimate method of inquiry. I aim to show that broadly inductive warrant is a difficult concept for naturalists to explain scientifically. Must evidence arise from the sciences to count in the inductive proof, or is general human experience enough? Is general human experience typical to epistemic warrant scientifically reliable? Is the reliability of broadly inductive warrant

presupposed by or justified by the sciences? Beyond this I will identify three defeaters for naturalism that I feel constitute significant obstacles for a worldview that claims to be comprehensive, yet restricts its evidence to science alone. These defeaters are arguments by which I am personally compelled, and believe that they push the rational mind to consider scientific knowledge too narrow to constitute a comprehensive worldview.

4.3.1: An Undercutting Defeater for Naturalism

Since it *is* possible to make claims beyond what can be strictly observed, and since naturalists accept the fact that the universe is much more informationally rich than we currently understand, the fact that scientific reason can be employed to defend theories of knowledge that have an origin beyond the scope of science, naturalism cannot hold its normative claim against non- or extra-scientific forms of knowledge. Paul Moser and Keith Yandell explain:

Minimally, the empirical sciences rely on abductive epistemic principles that certify inferences to a best available explanation of pertinent phenomena. The empirical sciences are, after all, in the business of best explanation. Even so, their domains of pertinent phenomena to be explained are not, individually or collectively, monopolistic in the manner required by abductive warrant for [naturalism]. For example, those domains do not, individually or collectively, preclude any kind of religious experience suitable to abductively warranted theistic belief. So, the abductive epistemic principles accompanying the empirical sciences will fall short of warranting [naturalism], given the monopolistic assumptions of the latter.²⁹⁰

I have substituted 'naturalism' for their term 'Core Scientism' which we saw in chapter three was their technical term for the conjunction of doctrines held by naturalists. In other words, we might say, if there are possible experiences that justify beliefs outside of scope of science, and science does not preclude these experiences but instead, appeals to experiences that are rational in just the same way as these experiences that justify beliefs that are not scientifically confirmable, then these experiences are no more to be

²⁹⁰ Moser and Yandell, "Farewell to Philosophical Naturalism," p. 12.

rejected prior to scrutiny than those that are typically considered rational for scientific use.

Just because a theory is rational, however, does not mean that it is true. But this is not an aspect of the immediate question. If and whether a theory is *true* will depend on information beyond what is available scientifically. If and whether a theory is *plausible*, on the other hand, is directly related to scrutiny by scientific methods and reasoning. If it is found untenable or implausible by scientific reasoning, then I have a defeater for the belief (an undercutting defeater just in case the reason for a belief is shown to be neutral regarding the belief itself, and a rebutting defeater just in case it is found implausible in light of the defeater). But the naturalist cannot discard the possibility of its truth before investigation. If he does then he is employing a criterion that is prior to science, if he does not then that which is called naturalism merely becomes an appeal to apply the methods of science and innocuous as a doctrine, since worldviews that are in conflict with naturalism also agree with the latter.

To put it differently, the naturalist, in order to hold (1), must either appeal to something purely philosophical, say, classical empiricism (E), to support (2), or appeal to the methods and findings of the sciences themselves, in order to show that \sim (1) is false. If the naturalist appeals to something like E in support of (2), the naturalist is already in violation of (1), since he is employing a philosophy prior to the methods of the sciences. In addition, the naturalist accepts that E is contrary to (4), since no purely philosophical criterion has been able to 'fit up' to scientific entities, theories, or processes, or proscribe entities, theories, or processes from legitimate inquiry prior to investigation by the methods of science. But if E is contrary to (4), then E implies \sim (8), and therefore \sim (9). ~(9) would be a major step forward for naturalism, but ~(8) would be devastating. The naturalist eschews first philosophies such as E for this very reason. If the naturalist appeals purely to the methods of the sciences themselves to show that $\sim(1)$ is false, then he will be sadly disappointed. The methods of science remain agnostic concerning the possibility of knowledge outside of the methods of science. Therefore every selfconsistent knowledge claim is open to investigation by the sciences, only to be determined true or false after investigation has taken place, and then the truth-values apply only tentatively as the best currently available scientific methods are employed. But at this stage, philosophers and scientists disagree radically as to the implications of the findings of the sciences. If a naturalist cannot proscribe certain claims to knowledge prior to the employment of scientific methods, then the posture described by philosophers when they employ the term naturalism is not really naturalism at all, but merely something that means "using the methods of science," and retains no normative epistemic force, except that we should apply to science to questions of knowledge. But the normative claim that we should use science is most commendable and immanently justifiable-and compatible with most worldviews that are in conflict with naturalism. If nothing else, the success of science warrants such a belief.

What about the claim that a philosopher is warranted by the sciences in her naturalism? As we have seen, warrant derives from a broad spectrum of experiences that range from upbringing, occurrent beliefs, education, personal experiences, and testimony from apparently reliable sources. Though occurrent beliefs and childhood experiences confer rationality onto beliefs formed in these acceptable ways, surely these are not experiences accepted in most scientific processes. At least, if they are acknowledged to

be legitimately physical or empirical experiences, they are not counted among the most reliable and are therefore not appealed to for experimental purposes. But these are the experiences that are typically agreed to confer rational warrant on a position. So, if a naturalist claims to be warranted in her naturalism, then the warrant does not derive specifically from the sciences. As we have seen, the sciences leave us with a virtual epistemic parity concerning entities or processes or agents outside of the scope of science. For example, if science had completed everything it could possibly accomplish, how could we ever know scientifically that this was the case? Surely there are things that the sciences can tell us about themselves. Surely the sciences can indicate their reliability through continuous testing and an open posture toward revision. The can provide insight to the nature of their structure. But they cannot provide insight into the nature of competing knowledge producing structures. We should feel caution because there is no such warrant currently available within the sciences to proscribe other methods of inquiry, and though there may one day be such evidence, we cannot assert a universal claim concerning evidence on the basis of an intrinsically incomplete body of evidence. The warrant would have to derive from broadly personal experiences that may or may not be reliable indicators of truth or reliability, and which reach beyond what is currently accepted as scientific.

However, as an anti-naturalist with no analytic proof against naturalism and a strong belief in the efficacy of science, I must admit that we do in fact presuppose the general reliability of human experience, even those that contribute to broad inductive warrant, even when specific instances of human experience prove experimentally unreliable. With this in mind then naturalists and anti-naturalists alike must conclude that when someone has come to believe in naturalism in a manner that is not irrational, then that person is warranted in naturalism subject to defeat. With this agreement, the naturalist would then turn to me and ask the fundamental question: What competing knowledge producing structures exist, and what would they even look like?

I could respond, with Rea, that two options seem readily available, namely intuitionism and supernaturalism. But there are problems with this answer. On one hand, neither claim to *compete* with science on any significant level. Both can hold that science leads to truth. Both hold that all truth is truth, regardless of the source, and that consistency will always hold among true propositions. On the other hand this may be a relevant answer, since both purport to adduce knowledge from supposedly extrascientific sources. The scientist or naturalist could object that these may just be as yet unsolved problems later explainable by science. If this is the case, and I see no reason to think that it might be, then the supernaturalist has merely gone the route of the naturalist, claiming that science has nothing to do with supernaturalism, which may not be the case at all. As I explained before, intelligent design may prove scientifically valid, in which case a naturalist could come to theism through a naturalistic position with scientific methods. This seems perfectly valid, especially to those who hold the efficacy of natural theology. At this point, the boundaries between supernaturalism and naturalism would be blurred, if there were any boundaries to begin with, and the question would then be how much of this designer is knowable via scientific methods. But this would not preclude the same designer from contacting humans through other avenues. The scientific findings would be telling one side of a possibly larger story, but not that there is no other side of the storyhow could it?

Because of this, the line between scientific and pseudo-scientific might seem to become even blurrier. But this is not technically the case. Normal, everyday science still relies on testable, observable data that are subsequently confirmable by other observer who applies the same methods. But these everyday scientific methods presuppose, and/or appeal to, the reliability of experience, which, as we have seen, warrants beliefs that are not scientifically confirmable, but which, if internally consistent and comprehensive, offer a possible justification for why our normal scientific successes are the successes that they are, why our senses and mental structures seem to be perfectly suited to knowing the universe, and for the significance of the findings (whether pragmatic or realistic). However, certain of these experiences are not allowable into scientific practice, if for no other reason than their inability to be tracked to a specifically empirical or rational source. In most cases the evidence in favor of a belief system are systematically unreliable for scientific test conditions—upbringing, education, personal encounters, and first impressions. This means that the naturalist cannot appeal to broad inductive warrant, since many of the typical sources of evidence involved in warrant are not typically allowable into the process of science. If science, and experiences sanctioned or accepted by science is the only allowable source of evidence, then the philosopher claims too much in saying that science warrants holding naturalism. Far from making science less respectable, the anti-naturalist is being honest about the scope and limitations of the scientific project and remaining critically open to possibilities of understanding outside that scope.

The naturalist may object at this point. He might say, 'yes, it is always possible that there are many ways of constructing an explanation that are internally consistent and that any one might do as well as any other for determining the nature of a subject, but show me one that does better than science. If you cannot—and I see that you have yet to do so—then I take it that I am warranted in my giving a privileged place to science. What am I missing?'

A worldview may retain a personal, universalistic, and critical posture toward other worldviews. As a worldview, a naturalist is making a contention that he is personally warranted in believing the universality of science and that his concepts will always be restricted to this view, but that this is merely programmatic, and he will not make any academic claims or opinions outside of what he can prove scientifically. He personally concludes that nothing is missing from his worldview and challenges those who would oppose him to show him something that is outside the scope of science. He accepts science as offering a comprehensive perspective concerning reality. This is a viable option, as it is for any compendium of personal beliefs from which we enter the intellectual forum of life-open to challenge, revision, or defeat. The philosopher who holds naturalism as a worldview has more going for it than most worldviews because science is taught and accepted in almost every society regardless of controversial ideology. The global community accepts the validity of science and the naturalist is merely affirming that we need nothing to supplement the knowledge obtained from this universally accepted program.

With this said, are there any reasons that might lead us to *want* to reject naturalism? Has naturalism offered us something unique and good? It seems that there is some profit to be acknowledged, even while it remains an amorphous term. Any strict adherence to science will produce positive results. What it has tended to leave out is

compelling accounts of meaning, moral structures, modal properties, 'presence,' the *a*priority of logic, and religious experience. If the same measures were taken by naturalists to address the former questions as there have been toward theistic arguments, morality and modality would be removed from philosophy further than God. There are at least people who stand up philosophically for the concept of God, where it is unclear that any would do so for modality. But in other areas, naturalism has been more interesting. The application of Darwinian theory has allowed for diverse and complex explanations of natural processes that previously lay concealed. Increased understanding of the material conditions within which sensory faculties operate has expanded the possibilities for a more accurate account of epistemology. The restriction of metaphysical entities to observable causal properties has streamlined our understanding of the nature of reality and increased our ability to see the fundamental problems with areas such as consciousness and subatomic particles.

It seems that naturalism as a project is not wrong-headed or even unfruitful. It is just severely incomplete, as anyone who has attempted to attach an analytic thesis to it has discovered. As a research program, naturalism is a plausible and tenable project that lacks the ability to compel adherence to its dispositions either through the sciences or scientific reasoning. It rests on an appeal to the presupposition of the autonomy and authority of science for the success of science, and whether or not this posture is circular, it has proven successful.

So what is the naturalist missing? As I mentioned earlier, philosophical and scientific questions are the type of questions suited to scientific inquiry, even if only theoretically. Therefore, to raise problems of this nature will not be very powerful

counterexamples. Most of the questions to which naturalists lack access are the fundamental questions about meaning that a worldview is supposed to provide. I use the term "meaning" in both its logical sense and its personal sense. Logically we still do not have a clear concept of what it is for a term to 'refer' or 'denote' or possess meaning for a subject. We do not understand 'representations' when they come to us rich and full of content that is indescribable with language. Just because we do not currently understand the relation between a term or phrase and its personal impact does not imply that science could not figure out "what" is going on. It is very possible. But science has trouble with "why" questions. Science offers explanations in terms of causation. "Why did the red ball move?" "Because it was struck by the blue one." "Why did the blue ball move?"

Why is belief in naturalism undercut by this dialogue? Because the fact that science is open-ended, not restricted from non-empirical questions, and possesses the capacity to support anti-naturalist positions places it in a neutral position regarding the fundamental claims of naturalism. An undercutting defeater is successful if it shows that the claimed reason for a belief is actually neutral regarding the belief. If I wear a Red Sox jersey backward everyday for the entire season and they win the World Series, I might infer that my wearing the jersey contributed to their victory. However, an undercutting defeater would be if I behave the same way next year and the Sox do not win. My behavior will prove neutral with regard to a Red Sox win. Science is immanently successful and rests on a justification that we have all conceded to be less than analytic, and that we have also agreed to be its strongest asset. But science is neutral regarding questions about ultimate reality. It may narrow the possibilities, but so long as contrary

possibilities remain—such as naturalism and anti-naturalism—then naturalism does not, it seems cannot, follow from science. At least it cannot follow from science any more than any other worldview can follow from science alone.

4.3.2: Three Rebutting Defeaters for Naturalism as a Worldview

There are, of course, more fundamental questions of meaning. These are existential questions to which sentient creatures seem drawn to ask and ponder, such as: Why is there something rather than nothing? Why do sentient creatures exist in such improbable circumstances? Why am *I* here? If there are no ultimate answers, then nothing ultimately matters. Are we prepared to accept the consequences of this? Without ultimate answers, ultimate questions become meaningless...just as the positivists explained. I will explore three areas of traditional fundamental human importance, about which naturalists are content to either vehemently reject or remain agnostic. These are justice, origins, and love.

The first area of fundamental human importance is that of justice. If naturalism is true then justice is merely the agreement, whether explicit or tacit, among groups of selfconscious biological entities. For naturalism, whether an act is "right" or "wrong" in an ultimate sense is really not the ultimate question, since it cannot be, though we may phrase the issue in this manner. According to naturalists, those rules that are typically called moral imperatives are the derivative of evolutionary processes developed within a species population in order to enhance the survival of that population by defending it from predation from within the group. This means that the group itself, and its social dynamics, are the determining factors in moral decisions. Acceptable moral decisions actions considered morally permissible—are those that naturally aid survival by protecting the population from the inside. On this characterization, decisions concerning moral permissibility are only viable if the action is subject to peer review. In the off chance that a member of the group is absent from the group, nothing the organism could do could possess the attribute of "good" or "bad" in the moral sense. Perhaps the organism's absence from the group could be considered a moral failure, if the group's size was a survival factor, or if that particular organism was integral to the defenses of the group as a whole. So long as an act does not infringe upon the group's ability to survive and prosper then the act is morally permissible, according to naturalism. This sounds a good deal like political liberalism—but that, of course, is miles away from the deeper problem.

If there is no ultimate foundation for what we consider "right" and "wrong," then all that we consider "right" and "wrong" is either arbitrary, since not all moral intuitions are related to survival, or biological in a deep sense, which usurps moral accountability. If a person possesses a deviant behavior type, then the evolutionary mechanism concerning group survival behavior did not develop properly. But biological misfortune hardly seems like solid grounds for physical or social punishment. In addition, if public scrutiny is the foundation for all moral behavior, then behavior is immoral only in relation to an available populace. This means that, so long as accountability is unavailable, an act is not morally significant. Any member of a population who kills another member in secret, and who escapes capture, has not been "judged" or "found" immoral and the act remains neutral. We could say that, given a state's or nation's laws concerning the act that, according to social circumstances, if the act is discovered, then that act is not permissible. But until the act is discovered, there is no accountability or peer group to determine liability. Morality is reduced to personal accountability to other

•

humans. Naturalists claim that moral instincts or intuitions develop according to rules of social acceptance and that feelings of "guilt" result from self-conscious violations of those rules, even if accountability is not present. A person knows, by virtue of acquaintance and perhaps genetic transcription, that just in case accountability is present, then an act would be found permissible or impermissible. The question is whether this account is comprehensive in the way we need to be human.

The question hinges on whether there is ultimate justice in the universe. Someone might object that "in the universe" is too strong, since morality and the justice which would support it belong exclusively to self-conscious creatures, the only ones of which we know are confined to earth. But of course, if there were ultimate "Justice," then that justice would be confined to one race of self-conscious creatures only if there is only one race of self-conscious creatures only if there is only one race of self-conscious creatures only if there is only one race of self-conscious creatures that exists. But this need not change the qualification "in the universe." If those on earth are indeed the only self-conscious creatures, then my description stands. The universe "belongs to us" in a way that it cannot for creatures that cannot objectify it with reason. But if there are other creatures of a self-conscious nature within the universe, then Justice will apply to them as well, otherwise it would not be "ultimate" in a significant way, and my description still stands.

We know—we know deeply—that justice is not accomplished in the short run of human life. Dachau, Auschwitz, Iraq, and the Sudan bring to mind images of cruel immoralities and murders that we judge to be morally impermissible. A close friend's murder, mutilation, or rape, self-inflicted wounds or drug-induced incapacitation convey the same feelings. If moral permissibility is dependent upon the direction of human civilization or biological development, then justice is not accomplished and will not be until we have achieved world peace. Perhaps more than world peace is required, but at least world peace is required. We must continue to work toward a world without such atrocities in the knowledge that, in the absence of such a world, justice does not exist. But even if world peace is accomplished, we have only established that behaviors under scrutiny by peers and which affect the population are morally significant.

Justice, when defined as social regulation, implies that a thought, or personal act not affecting another person or the population, or a consensual act between two or more parties that does not affect the population in a negative manner could never be considered "wrong" in a substantive sense. But we have the concept of justice. We know what it is supposed to be. We know that when a stranger steps on our foot or pushes us down that, if they do not apologize, or if the act was done intentionally, we are not appealing to societies laws when we feel morally wronged. We are not appealing to an irrelevant standard that may not apply to someone from another culture. We are appealing to a standard that all humans agree on. We just need to know this standard's true nature. Since there are rules of conduct agreeable across all culture lines, we cannot appeal to mere cultural assent to describe the nature of morality. There are simply too many rules that transcend arbitrary legal regulation. Our concept of justice, and our feeling that we deserve it in certain instances, has one of two explanations: universal knowledge or evolutionary mechanism. Justice either will be done or should be done in a substantive metaphysical sense or it is a survival mechanism for which there are only legal consequences. Two philosophers put it this way:

Since justice is not done in the short run in human life on earth, either (1) justice is done in the long run—in which case there must be a "long run," a life after death—or else (2) this absolute demand we make for moral meaning and ultimate justice is not met by reality but is a mere subjective quirk of the human psyche—in which case there is no foundation in reality for our deepest moral instincts, no objective validity or justification for justice. The statement, "I want justice," only tells something about us, like "I feel sick," not about objective reality, what real is or what really ought to be.²⁹¹

One might object that Kreeft and Tacelli have missed the power of naturalistic morality. Justice need not be "ultimate" to be "objective" because, just in case there are only physical entities and processes and humans are the only self-conscious creatures in existence, then those creatures are the measure of what is "right," in a substantive sense. But, of course, "man as measure" does not meet the criterion of objectivity. For a theory to be objective it must be independent of the knower. This means that "known by all," or "believed by all," or "publically proved," are not sufficient to denote "truth" in a substantive sense. A belief held by all parties involved, or all people, in the case of morality, could still be false. In addition, nothing prevents an objective truth from being privately known. A fact could be known—Kreeft and Tacelli give the example of the location of a hidden treasure—in the absence of public arguments or reasons for the fact.²⁹² "Stephen King wrote *Cujo*," is an example of an objective truth. "I feel sick," is an example of a subjective truth.

Naturalists could counter that, given the open-ended nature of science, we do not need "objective" morality in the sense I have described. This does not mean that naturalists do not believe objective truth exists. In fact, their appeal to science as an everincreasingly truth-approximating program of inquiry commits them to an objective state of the universe. They may merely admit that we cannot know, at any given time, the extent of "objective" truth, or "morality" as conceived on a scientific worldview.

²⁹¹ Peter Kreeft and Ronald K. Tacelli, *Pocket Handbook of Christian Apologetics* (Downers Grove, IL: InterVarsity Press, 2003) p. 92.

²⁹² Ibid., p. 133.

This counter-argument would not actually tell against my analysis. It only highlights the implications of naturalism for morality. If science is the only source of knowledge, and morality, according to current science, is either arbitrary or biological in nature, then morality is not undergirded by justice in a substantive sense.

This is not a change of position from what I said earlier about an act being "right" in a substantive sense. An action can be "right," according to a definition set out, whether intentionally or unintentionally, by a group agreeing upon a standard. All legal matters are substantive in this sense. Driving on the right side of the road is "right" in the U.S. and "wrong" in England. Both laws are substantive and binding, but neither is undergirded by a universal concept of justice, unless driving laws are subsumed under "societal order," the details of which need not be objectively or universally binding to be true. In other words, it need not be objectively or universally "right" to drive on the righthand side of the road, even though it is an objective fact that this is the case in the U.S. The universally objective fact might be something like, "It is universally 'right' that a society apply a structure of law and order."

How might we know if a universal system of morality is in place? We all feel the tug of moral imperatives, yet most of us are compelled by the apparent comprehensiveness of science. There seem to be only two choices in explanation of this: (1) morality is somehow natural in the sense of survival and prosperity, and science has the ability to illuminate this, and Justice does not exist, or (2) morality is somehow natural in the sense that it is universally binding upon all self-conscious creatures, whether this-worldly or not, and Justice does exist and will resolve moral instability.

At this point no specific theory of universal morality is implied. The Buddhist moral intuition is that the universe constantly oscillates between balance and imbalance and will ultimately achieve moral balance. The theist also has an understanding that a divine being possesses the quality of perfect justice and will bring about or is constantly bringing about justice.

The question left for philosophers is how such a moral imperative might be known. If naturalists have an explanation for our moral intuitions that is as comprehensive as the Buddhist or theist, then the naturalist was right all along that his worldview was comprehensive. It is not my intent to argue in favor of an anti-naturalist version of morality, but to highlight the implications for morality according to naturalism.

If the naturalist is correct, moral feelings lose all significance. Moral intuitions do not signify an ultimate justice to which we have the right to appeal as self-conscious, morally accountable participants in the human struggle for "goodness." Christian philosopher William Lane Craig writes:

Without God, science itself becomes meaningless. Man's search to understand himself and the universe is ultimately without significance. Nor can scientific knowledge provide man with moral values. ... Nor can science overcome the absurdity of life caused by death. ... The point is that man's being the Cosmic Orphan is not an exhilarating adventure. It is the final tragedy. It means that man is the purposeless outcome of matter, time, and chance. He is no more significant than any other animal, and is destined only to die. Therefore we weep for him.²⁹³

Purpose and goodness get swallowed up in death. Right and wrong become catchall terms for concepts that have nothing to do with justice outside of legal stipulation. But just believing that there must be something more to morality than what the naturalist describes does not make it so. Remember, just because everyone believes something, it may still be false. And so arguments must be constructed in order to determine whether

²⁹³ William Lane Craig, *The Son Rises: The Historical Evidence for the Resurrection of Jesus* (Eugene, OR: Wipf and Stock Press, 1981) p. 15.
naturalists are faced with a personally unlivable worldview. Of course, if it is true that a maximally intelligent being exists who is powerful enough to bring matter and natural law into existence, then naturalism in ethics is false and the only open explanation for morality is that it is universally binding and must, by definition, be knowable.²⁹⁴ This brings me to the next traditional fundamental question of human importance: origins.

If the naturalist is correct, then humans are, as Craig mentioned above, "...the purposeless outcome of matter, time, and chance." A human is, as atheist Loren Eiseley writes, the "Cosmic Orphan."²⁹⁵ Remember that naturalism, while not committed to atheism, does not and cannot appeal to an interactionist god as a relevant explanation for an event. This means that, for a naturalistic theist, if the universe came into existence, then the process of this becoming must have a naturalistic explanation. For, to whatever naturalistic deity the naturalist appeals, the co-existence of this being with non-divine creatures is as happenstance as seashells on the beach. Though an animal may exist content with the happenstance of the universe, humans have traditionally been obsessed with denying it. The fact that we can consider our existence and its termination and our ultimate fate pushes us to investigate why there is something rather than nothing, why is there order rather than disorder, and why are there self-conscious creatures as opposed to only animals (the last question usually implying the deeper supplication: "Why am Ihere?"). I will look at these questions in turn, looking very briefly at the last.

Naturalists have traditionally accepted the fact that something cannot come from nothing, so that, historically they conceived that the universe existed eternally into the past-the steady state model. Science had not progressed to the point of offering any

N. 1

²⁹⁴ Notice that universal moral laws might not necessarily be "known," since we typically consider ignorance of the law invalid as a defense so long as the law *could be* known. ²⁹⁵ "The cosmic orphan," *Encyclopedia Britannica*, 15th ed., *Propaedia*, s.v.

alternative. Even with discoveries surrounding the question of the beginnings of the universe, such as the expansion of the universe by Edwin Hubble and the diffusion of background microwave radiation combined with the second law of thermodynamics, physicists conceived of possibilities for the universe's eternal existence into the past. One example is the "cyclical theory" in which a Big Bang universe expands and collapses infinitely into the past where as the current universe is one cycle of expansion. Another example is the "cyclical ekpyrotic theory," where the current universe is one dimension of a many dimensional cosmic membrane that intersects with an identically shaped cosmic membrane in such a way that the impact pushes the membranes away from one another providing the appearance of the universe coming into existence out of nothing. The base assumption, however, has always been that something cannot come from nothing—*ex nihilo, nihil fit.* That *was* the assumption, until recently.

Within the last fifty years, quantum mechanics has drastically changed the way we view the universe at the subatomic level. Subatomic particles, within the boundaries of quantum structure, appear to disappear and reappear in a different place with no detectable causal connection. And more than that, it seems impossible that there be a causal connection as understood at the molecular level. Hubble interpreted the expansion of the universe to imply that the universe expanded from increasingly smaller states. The state of the universe prior to the Big Bang event was a infinitesimally small singularity. If this singularity was a quantum particle, it seems that, according to quantum mechanics, it may very well have come from nothing.

There is, of course, a hidden presupposition. A subatomic particle's spontaneous generation is confined to the boundaries of quantum physics. The subatomic particle

212

called a "muon" could not disappear and then reappear as the one called a "pion" or a cheeseburger. The reappearance of a particle does not constitute an increase of matter, or the generation of matter. The disappearance does not constitute the destruction of matter. If either were true then the first principle of thermodynamics, which says that matter is neither created nor destroyed, would have to be relinquished in light of quantum physics. But physicists do not accept that quantum physics violates this law. Therefore, the cosmological singularity from which the universe sprang could not constitute the coming into existence of matter out of nothing, in the scientific sense that separates an event from a structure and claims that the structure of the universe originated with the Big Bang. If the singularity were a subatomic emergence, then a natural structure, namely quantum mechanics, must have already been in place. In addition, the matter that constituted the singularity could not have arisen from a matterless void, since the emergence of a subatomic particle "out of nothing" does not constitute an increase in matter in the universe. The matter would have already had to have been present prior to the existence of the singularity-at least to understand the event through the lens of quantum mechanics.

Suppose, on the other hand, that we relinquish the assumption that all natural laws came into existence with the Big Bang, as do the cyclical cosmogonal theories, and assume that events occurred within a natural structure that existed prior to our universe and that these events were the "causal" (I use the apostrophes to indicate that quantum mechanics actually belies causal relations as we understand them at the molecular level) explanation for the introduction of the singularity. If this were so, then the fundamental question I raised at the beginning of this section, why is there something rather than nothing, has just been pushed back a stage. This universe exists because a prior physical state brought it about, though perhaps not causally in the traditional sense. We may subsequently ask, "And why did that state exist rather than nothing?"

At this point the naturalist may revert back to the traditional answer to my question: The universe—in a broader sense of "universe" since it could not be limited to what we know as the current Big Bang universe—has always existed, though not in a steady state; but there is no first cause. This would seem to be a common sense answer. Buddhists have held this for centuries. The idea that the universe has existed eternally has enamored both scientists and Christians as well. Some Calvinists have held that God is completely immutable—incapable of change—and, since he is a creator, he eternally generates (present tense) the universe complete and intact, so that the universe is coexistent with his eternity. In this case the universe is eternal because a creator God is eternal and unchanging. But an "unchanging" universe can still be filled with events. These events follow one another in causal succession. This last statement is a presupposition of science. If effects do not follow lawfully from causes, then explanation is impossible. We will not know how to control and predict what we cannot conceptually connect in relationships. But is the eternity of a universe filled with events a possibility?

An eternity of events progressing ever toward the future would constitute, at any finite event, an infinite number of events. Is this reasonable? Can an infinite number of effects be brought about by a finite accumulation of causes? It seems unreasonable to think so. Let me separate the issue from mathematics. In mathematical set theory, there exist sets of infinite members. These sets possess properties that finite subsets do not possess. Of the natural numbers, the set of even numbers is equal to the set of even and odd numbers combined. There is no contradiction in this because we are working with sets of infinities that are already conceptually complete. I say "conceptually complete" because sets and numbers are objects of thought and not physical reality. In calculus the concept of infinity defines the limit to which any finite process can approach. If I take a line and begin to cut the line in half, then its half in half, and then that half, etc. I will be embarking on an unending process. I will never actually reach a number that I could call "infinity," and so the process would be indefinite. The terminological distinction between infinity in this process and infinity in set theory is typically called, thanks to Aristotle, "potential infinity" and "actual infinity," respectively. William Lane Craig explains it this way:

...the concept of an actual infinite needs to be sharply distinguished from the concept of a potential infinite. A potential infinite is a collection that is increasing without limit but is at all times finite. The concept of a potential infinite usually comes into play when we add to or subtract from something without stopping. Thus, a finite distance may be said to contain a potentially infinite number of smaller distances. This does not mean that there actually are an infinite number of parts in a finite distance, but rather that one can keep on dividing endlessly. But one will never reach in "infinitieth" division. Infinity merely serves as the limit to which the process approaches. Thus, a potential infinite is not truly infinite—it is simply indefinite. It is at all points finite but always increasing.²⁹⁶

We still need an answer to whether the universe could have existed from eternity

until now. The answer becomes obvious when we attempt to apply the concept of infinity

to finite objects and events and witness the contradictions. Craig uses the example of a

library.

Imagine a library that had an actually infinite number of books, each of which was either all black or all red, and which are placed on the book shelves alternately: black, red, black, red, etc. Since the collection is infinite, then the number of red books equals the number of red books plus black books. Even if there were more than just two

²⁹⁶ William Lane Craig, "Philosophical and Scientific Pointers to Creatio ex Nihilo," Contemporary

Perspectives on Religious Epistemology, eds. R. Douglas Geivett and Brendan Sweetman (New York: Oxford University Press, 1992) pp. 186-87.

colors, say, an infinity of colors, then the number of just one color would equal the number of all the books added together; an infinity of infinities. Merely add all the books of all the colors together and you will not have one more or less book than that of the set of books of just one color. Now suppose every book in our infinite library has a number on the side. This means that every possible number is printed on some book. But now we could not add one more book to the library. Why? Because all the numbers are already used up. What if we *could* add a book? According to mathematicians, the library has exactly the same number of books as before. No more no less.

To put it in terms of events, if you and I chop logs, one each at the same time, and we reach an infinity of chopped logs, then the number of logs I chop will equal the number of logs that you and I both chop put together. And here's another catch: so do the number of logs you chop! There are many other examples of the consequences of combining the concept of infinity with finite objects, but these few are enough to get understand the problem. Since we know all finite objects can be numbered and collections of finite objects, no matter how large, can be increased or decreased in size by adding more finite objects, these examples show the absurdity of finite objects constituting an actually infinite set. The examples actually constitute contradictions.

In logical analysis x + 1 = x + 1. The example of the books asks us to conceive that when an infinite number of books, (x), is increased by 1, (+ 1), then the sum is still x. This means that x + 1 = x. If we add this to our initial identity statement we have the conjunction of x + 1 = x + 1 and x + 1 = x. Since x is not x + 1, then we have the instantiation of the contradiction ([x + 1] $\cdot -$ [x + 1]). Since contradictions are a valid test

216

for irrationality, then it is unreasonable to believe that we can create an actually infinite set by adding finite objects. But how does this relate to the universe's eternal existence.

A universe filled with events is subject to the addition of these events in causal succession—*from* cause *to* effect—and in temporal order—*that* event occurred either before or after *this* event. These events are temporally finite occurrences, not being extended completely the space-time dimension. Of course, even if it were, the consequence would be irrelevant, since the space-time dimension is limited to this finite universe from the Big Bang until now. The realm denoted currently by "universe" implies all those states of "nature" prior to the instantiation of our Big Bang universe that stand as the explanation of the cause of our universe. But typically we take events to be isolated temporal occurrences that possess before and after relations to other finite events. This means that, conceivably, the beginning of our Big Bang universe is one type of event in a string of events leading to and from our Big Bang universe. Either way our Big Bang universe is finite, and therefore so are the events that constitute it.

Since the universe is filled with events, then if the universe existed eternally into the past, any single finite event anywhere on the chain of events would constitute the existence of an actual physical infinite and the instantiation of all the contradictions that go along with that. Consider counting down from infinity to zero. You had no starting place, but had merely been counting down forever. Now pick any finite number. Any finite number—either seventy trillion or three—would be infinitely far away from infinity. If the universe consisted of events stretching causally backward into infinity, then any finite event—the Ice Age or Kennedy's assassination—would be infinitely far from infinity, thus constituting an actual infinity and all the contradictions that go along with it. But we know of no instantiated contradictions. In fact we understand the order of the Big Bang universe precisely because it works in congruence with logical boundaries like that of the law of noncontradiction.

And so I have established—not universally or necessarily, but contingently and based on our best science—that it is reasonable to think that:

(A) Anything that begins to exist must have a cause for its existence. and

(B) A beginningless series of events constitutes an actual infinity.

These two assumptions will constitute part of a larger argument below. Someone might counter that there are no actual "events" in the universe. If time is relative, as Einstein's theory tells us, and events are stretched across space-time depending upon which frame of reference you perceive events from, then events may have always existed, complete and intact. If the universe-not just the Big Bang universe, but all those prior states—was this way, then everything could exist intact and eternally. There would need to be no cause, because causes are not really the causes of the events, but coincidental correlations of events with other events giving the illusion of explanation. Motion would, of course, be an illusion, and all actions would be determined in a strong sense, but it would certainly get around the problem of an actual infinity. There indeed could be an infinite set of all historical events, complete, intact, just like number sets, and we would not detect contradictions because we are situated in such a way that they are not visible to us scientifically. From one perspective of the universe, our Big Bang universe might exist and from another perspective it might not exist. Both truth-values would hold, while neither being perceivable from the same vantage point-whatever this might mean. Though the universe's existing eternally, uncaused, and complete is a valid option, in that it surmounts my objections, it seems to require a heavy scientific price. Causal explanations are all illusions, along with motion, and free will. It is difficult to find this intellectually compelling as an option. The implications of not accepting this alternative have been formulated into a series of logical deductions called the kalaam Cosmological Argument:

(C) Anything that begins to exist must have a cause for its existence.

(D) The universe began to exist.

(D1) An actual infinite cannot exist.

(D2) A beginningless series of events constitutes an actual infinite.

(D3) Therefore, a beginningless series of events cannot exist.

and

(D4) The series of historical events is a collection formed by adding one member after another.(D5) A collection formed by adding one member after another cannot be actually infinite.(D6) Therefore, the series of events in time cannot be actually infinite.

(E) Therefore, the universe has a cause for its existence.

Well, so big deal, the universe has a cause for its existence. What might this cause

be? It cannot be physical. All matter, energy, and lawful structure came into existence with the universe. That which is physical is made up of matter, energy, or lawful structure, or is an emergent property of these. It is the existence of matter, energy, and lawful structure that is in need of explanation. So it assumes what is to be proved to say that something physical caused all that which is physical. And so, by elimination we know that the cause of the universe must be nonphysical. This is all that is necessary as a defeater for naturalism. Lewis wrote that, "if any one thing makes good a claim to be on its own, to be something more than an expression of the character of Nature as a whole—then we have abandoned Naturalism." Whether Muslim's are correct in their assumption that the existence of Allah is proved by the Kalaam argument is irrelevant at this point. I feel that naturalists have a significant obstacle in the Kalaam argument.

There have been increasing controversy over the efficacy of the Kalaam argument. And for those who find science much less cut and dry, especially with regard to our current understanding of causation, I must interject a similar argument offered by William Lane Craig. The success of science is grounded primarily in its explanatory power. In fact, it is the explanatory power of contemporary scientific theories that have led many theorists to believe that there is no need for the introduction of a Creator into discussions about reality. But Craig says that there are only two concepts of explanation relevant to any subject: an intrinsic explanation based upon the nature of the subject or an external explanation. The argument, then, looks like this:²⁹⁷

1. Everything that exists has an explanation of its existence, either in the necessity of its own nature or in some external cause.

2. The universe (including any singular state) exists.

It follows from (1) and (2) that the universe has an explanation of its existence. Premiss (3) states:

3. The universe (including any singular state) does not exist by a necessity of its own nature.

4. Therefore, the universe has an external cause.

This argument underscores my example of the blue object detector. If there is something beyond the scope of scientific investigation, then science is incapable of offering advice on this something. In addition, it is the appearance of an infinite regress intrinsic to scientific explanations that drove philosophers to ask the hard questions like, "Why is there something rather than nothing?" and "What existed prior to the universe?" Since the laws and constituents of the universe are bound up in the contingent circumstances by which the universe came about—since our current understanding of

²⁹⁷ This form of the argument comes from a debate between Craig and Quentin Smith at Harvard in 2003. http://www.leaderu.com/offices/billcraig/docs/craig-smith_harvard02.html.

science is compatible with several cosmogonal explanations—then the explanation for the beginning of the universe must lie outside of the universe itself.

In addition to addressing the ultimate origins of existence, naturalists must confront the complexity of structural order in the universe, including sentient life. We know from evolutionary theory that for complexity to increase information must be added to the gene pool. For biological creatures, this addition is accomplished through random mutations—mistranslations of DNA by biological transcribers—that are then subjected to environmental adaptation for development or elimination. But, of course, there are three mechanisms necessary for natural selection to take place: reproduction, heritable variation, and mutation. Since reproductive organisms are already considered complex in a substantive sense, complexity is a presumption of evolution. It must exist for Darwin's theory to work. In fact, Darwin was well aware of the limitations of his theory, titling his work the Origin of Species, rather than the origins of life or the origins of complexity. Yet we find the universe with an incredible amount of complexity.

Complexity is defined as an arrangement that is "not so simple that it can readily be attributed to chance."²⁹⁸ Complexity is a form of probability. The less chance of something coming about by random processes, the more likely it is that the event was planned, designed, or programmed by something that can reduce probabilities by overcoming the obstacles of blind chance. William Dembski offers an illustration. Consider a combination lock:

The more possible combinations of the lock, the more complex the mechanism and correspondingly the more improbable that the mechanism can be opened by chance. Complexity and probability therefore vary inversely: the greater the complexity, the smaller the probability. Thus to determine whether something is sufficiently complex to

²⁹⁸ William Dembski, Intelligent Design (Downers Grove, IL: InterVarsity Press, 1999) p. 17.

warrant a design inference is to determine whether it has sufficiently small probability.²⁹⁹

Of course complexity is not enough to reasonably ensure "outside influence." Dembski admits this and argues that three criteria are actually required, adding "contingency" and "specification." But compounding probabilities serves in some of the same ways as adding more criteria. For instance, if the probability of a Big Bang universe is low, and the probability of that universe producing an atmosphere conducive to life if low, and if that universe's actually conceiving life is low, then the existence of human beings in a Big Bang universe seems to lend favor to the idea that we would not be here if there were only time, matter, and chance.

But this type of reasoning is subject to a fundamental flaw. The fact that we are here and all those probabilities have been overcome does not leave us with supernaturalism as the only option. Since all those improbabilities I just mentioned are valid probabilities, regardless of how much the boggle the mind, they may still occur. This is the reverse gambler's fallacy. The gambler's fallacy is to believe that a certain number on set of dice is bound to come up if it has not done so in a long time. If I want to roll double sixes, and double sixes have not appeared in multiple dice throws, then I might fallaciously assume that double sixes must be coming soon. The fallacy is that, the dice have "no memory," as it is sometimes put, and every throw contains an equal probability that double sixes of the probabilities. Double sixes might never come up because there is also always a certain probability, in every throw, that they will not come up. However, there is the reverse gambler's fallacy. This argument states that, so long as

. • •

²⁹⁹ Ibid., p. 130.

there are a finite number of possibilities, given enough time, all possibilities will instantiate. Since the universe has existed for a finite amount of time and is composed of a finite number of parts, all of which are finite in themselves, the possibility of the conditions for human life, combined with a scenario in which human life actually appears will eventually instantiate. The fact that we are here does not necessarily lend us any clues as the reason we are here.

We need not overcome the truth of the reverse gambler's fallacy. All we need to understand is that, in absence of a mechanism like that of Darwin's theory, which already presupposes a certain amount of order, order cannot come from disorder. At the cosmological level there is no way to "introduce" information into the system. Transcriptions and reproduction do not occur. The first law of thermodynamics prevents physical intrusion of matter or energy, so either life and sentience are emergent properties of physical and chemical processes, or they have origins outside the physical universe.

It should be clear why Darwin's theory cannot help us here. In presupposing complexity and life we cannot propose that complexity and life originated by the process of natural selection. Several philosophers of science have argued to this effect. Richard Dawkins proposed that inert processes can "mirror" biological processes leading us to believe that natural selection takes place at levels other than biological ones. He conceives that wind blowing a certain dust into streams could subsequently dam the stream, mixing with other compatible dust, and then get blown once again to other streams, to subsequently dam them, thereby "reproducing." In the same way gasses could mix with chemicals in improbable environments that are then electrically charged, which then leads to life. He presents the examples more clearly than I do and shows how each

223

aspect mirrors reproduction, heritable variation, and mutation. To presume without clear argument that evolution takes place at all levels of physical interaction is subject to the fallacy of composition. Just because an event takes place at one level does not mean that it takes place in the same way at another. A clearer example of the fallacy is: all men have a mother; therefore, all men have the same mother. Dawkins gives a clear argument and so does not fall prey to the fallacy. I think Dawkins's argument is incomplete and therefore inconclusive, because we have no idea what chemically distinguishes life from nonlife. Humans possess all the same chemicals found in nonliving things, and no amount of combination of chemicals has produced life artificially.

In addition to the problem of life generally, the problem of self-conscious life possessed arguably by humans alone is also difficult to explain scientifically. Most scientists and philosophers have given up the classical dualistic model insinuated by Descartes. Some have modified approaches to a mind or soul that attempt a functional unity. Both sides suffer from a severe argument from silence. There's no compelling indication on either side of the debate. Those who presuppose physicalism must think that the person is identical to the brain. Those who presuppose more than physicalism are at liberty to think that the person is distinct from the brain, though they may choose not to do so. The consequences are existential. If the naturalist is correct, then she must live with the knowledge that her life is meaningless. No God exists or at least he does not have the power to call her into existence, giving her purpose that exceeds her self and even earthly life. Self-conscious life has the ability to objectify itself and consider its fate. If the discovery is purely scientific, then the result is a fate identical to death. Why do we get up in the morning? If it is for ourselves, then we must make life the best we can for ourselves. If it is for others, then we must make life the best we can for them. Either way, it matters for only a period of time, and for nothing morally or eternally significant. It matters for nothing. If I am a naturalist and I create my own purpose, then I have to convince myself of something I do not believe: that I am something that deserves life and justice and beauty and that my purpose is worthy and good. But if the naturalist is correct then there is nothing good about created purpose, it only "is." It may serve to give others pleasure, but their life has no ultimate end or justice either, and therefore giving pleasure to others is meaningless. If giving pleasure to others is pleasurable to myself, then I have pleasure for a time, knowing that it serves nothing except to get me closer to death more comfortably.

People criticize Pascal's wager because it asks them to act like they believe something that they find intellectually uncompelling. "Believe in Christianity, which you find untrue, just in case it will be good for you in the end." But the naturalist asks exactly the same thing. "There really is no God or ultimate purpose, but act like there is so that you will feel motivated to get up in the morning and so you will act morally, so that the world can be a better place." A dialogue from the movie *Equilibrium* puts the issue logically:

Prisoner: Why do you exist?
Policeman: To preserve order.
Prisoner: Why?
Policeman: For the preservation of the colony.
Prisoner: So that you can continue to exist. Don't you see that it's circular?

This leads me to the final fundamental question of human importance: love. I am approaching this question from a purely existential perspective and starting with an argument from Blaise Pascal. Pascal claims that there are three fundamental motivators in

225

the world: carnality, mind, and charity. By carnality Pascal means the pleasures of wealth, power, sex, and fame. By intellect Pascal means the pleasures of discovery, creativity, and genius. By charity Pascal is referring to selfless compassion and altruism. Kings typically strive for carnal pleasure, scientists typically strive for intellectual pleasure, and saints strive for the pleasures of charity. Pascal's major point is that, of the three, only carnality and intellect are natural. We understand the desire for them, we can generally comprehend the gain achieved by them, and we know the routes to obtaining them more perfectly. With charity, however, there is something distinctly otherworldly. We respect and cherish those who are selfless and sacrificial, but we find their motivation obscure or unclear. We do not fully understand the gain of self-sacrifice and we do not know, and even fewer of us care, how to achieve charity more perfectly. It is not easy to obtain, and it seems to go against reason and biological tendencies to be self-controlled, humble, generous, respectful, genuinely honest, and unmaterialistic. Pascal says that this is because charity is supernatural, finding its origins completely in the Christian God. No amount of carnality and intellect could ever produce one ounce of true charity.

I aim to show that a paradox exists concerning love. Even as a western, materialistic society, we in the U.S. revere and praise charity in its true form, yet we loathe being associated with it and resist calls to be charitable ourselves. Naturalism offers no explanation for the feelings associated with this paradox. On one hand, if naturalism construes love as merely evolutionary altruism, then the phenomenal force associated with true charity is merely a byproduct of a natural mechanism that plays, at best, a secondary role in natural selection. On the other hand, if altruism is truly

beneficial in a naturalistic manner, why do we resist it so vigorously? Allow me to quote

Pascal at length before I begin my analysis:

The infinite distance between body and mind is a symbol of the infinitely more infinite distance between mind and charity; for charity is supernatural.

All the glory of greatness has no luster for people who are in search of understanding.

The greatness of clever men is invisible to kings, to the rich, to chiefs, and to all the worldly great.

The greatness of wisdom, which is nothing if not from God, is invisible to the carnal-minded and to the clever. These three are orders differing in kind.

Great geniuses have their power, their glory, their greatness, their victory, their lustre, and have no need of worldly greatness, with which they are not keeping. They are seen, not by the eye, but by the mind; this is sufficient.

The saints have their power, their glory, their victory, their lustre, and need no worldly or intellectual greatness, with which they have no affinity; for these neither add anything to them, nor take away anything from them. They are seen of God and the angels, and not of the body, nor of the curious mind. God is enough for them.

Archimedes, apart from his rank, would have the same veneration. He fought no battles for the eyes to feast upon; but he has given his discoveries to all men. Oh! how brilliant he was to the mind!

Jesus Christ, without riches and without any external exhibition of knowledge, is in His own order of holiness. He did not invent; He did not reign. But He was humble, patient, holy, holy to God, terrible to devils, without any sin. Oh! in what great pomp and in what wonderful splendor He is come to the eyes of the heart, which perceive wisdom!

All bodies, the firmament, the stars, the earth and its kingdom, are not equal to the lowest mind; for mind knows all these and itself; and these bodies nothing.

All bodies together, and all minds together, and all their products, are not equal to the least feeling of charity. This is of an order infinitely more exalted.

From all bodies together, we cannot obtain one little thought; this is impossible and of another order. From all bodies and minds, we cannot produce a feeling of true charity; this is impossible and of another supernatural order. (F 793, *Pensees*)

Why do these words seem to ring true? There is no obvious logical argument

here. Pascal is merely stating what we seem to feel intrinsically. "Wow, those guys are really holy and committed. I wonder why they do that?" Leaders lead in the answer, "They are free to do as they will. This is the gain of liberty!" Scientists follow, more subtly, "They do this because there is a gene connected to 'religious feeling,' which these dear people possess to a greater degree than the rest of us. Honor and respect them, and be thankful you don't have it." Political philosophers resound, always heard last and least, "It does not matter why they do it. Maybe they are genetically malformed, maybe not, but whatever their motivation, society is better for it. They are law abiding and peaceful—just don't let them vote or your rights are toast!"

The paradox remains. We respect and reject "true charity"-love-so regularly that it does not even seem like a contradiction. Moral philosophy has left charity in the dust. Contemporary moral philosophy is so caught up in legal rights and universal legal imperatives that it has left out the fundamental guiding force behind morality-based action, namely, beliefs about the nature of reality. Many tend to hold a scientific view of the world, which presupposes an objectively fixed world that is knowable to the sense, while rejecting that there is anything absolute that can be known about human nature. Yet we face the same problems day by day: humans are morally egregious creatures. We have the free will to be good and decent, yet we only tend to do so when people are watching. It has been written that, "Character is who you are when no one is looking." Few of us even fantasize about emulating comic book hero genuineness and honesty any more. We still cherish them in the back of our minds. We are reminded of them when the carnal mind and the charitable mind are lost on the same day as with Princess Diana and Mother Theresa. We recognize the moral tragedy of the generous airtime that Diana received verses the minor press releases announcing the death of Mother Theresa.

This brings us to question charity and its true source. If naturalism is correct, then Pascal is wrong—completely wrong—and this paradoxical disposition toward charity is nothing but a middle-of-the-road shift in evolutionary development. We are genetically fighting an overly developed sense of altruism in order to keep the herd alive. Natural selection is struggling with moderation. On one hand, Christian morality would tells us that systematic altruism would bring the species to a level of peace and contentment

228

never before experienced. Altruism in the form of true charity is the design structure of our deepest nature, and our rebellious hearts strive against it. On the other hand, evolution would tell us that systematic altruism—which at the level of the individual organism is commonly considered a favorable blunder in mutation—would bring about the demise of the species. Altruism is only beneficial on a small scale. The current state of the world, however, would suggest otherwise.

4.4: Conclusion

Just because it seems so does not mean that it is so, or that it should be so. Therefore, none of these arguments necessarily compel assent that theism, especially Christian theism is true. But they are, at least to my mind, significant obstacles to the naturalistic worldview. They merely ask naturalists to reconsider their initial assumptions about the scope of epistemic evidence and invite them to search more deeply into the fundamental questions of living. If they can defeat these obstacles satisfactorily to their own minds then I would like to understand, more fully, their reasoning. If not, there are many options for exploration, not the least of which is Christian theism.

Bibliography

1. Alexander, Samuel, Space, Time, and Deity (London: Macmillan, 1920), vol. 2.

2. Alspector-Kelley, Marc, "Empiricism Naturalized," http://homepages.wmich.edu/~malspect/Empiricism%20Naturalized.htm.

3. Alston, William, "What Is Naturalism, that We Should Be Mindful of It?" *Leadership University*, December 2002, http://www.leaderu.com/aip/docs/alston-naturalism.html.

4. Alston, William, Perceiving God (Ithaca: Cornell University Press, 1991).

5. Ayer, A. J., Language, Truth, and Logic (New York: Dover Publications, 1952).

6. Beilby, James, Naturalism Defeated? Essays on Plantinga's Evolutionary Argument Against Naturalism (Ithaca, NY: Cornell University Press, 2002).

7. Bergmann, Michael, "Commonsense Naturalism," in Beilby, ed., *Naturalism Defeated*?

8. Bergmann, Gustav, *The Metaphysics of Logical Positivism* (New York: Longmans, Green, and Co., 1954).

9. Bonjour, Laurence, In Defense of Pure Reason (Cambridge: Cambridge University Press, 1998).

10. Bonjour, Laurence, "Against Naturalized Epistemology," in *Midwest Studies, Vol. XIX*.

11. Boyd, Richard, "Realism, Underdetermination, and a Causal Theory of Evidence," *Nous*, 1973.

12. Burge, Tyler, "Mind-Body Causation and Explanatory Practice,"

13. Campbell, Donald, "On the Conflicts between Biological and Social Evolution and between Psychology and the Moral Tradition," *American Psychologist*, 30 (1975), pp. 1103-26, cited in John Hare, "Naturalism and Morality," in Craig and Moreland, *Naturalism: A Critical Analysis*.

14. Chalmers, David J., The Conscious Mind, (Oxford: Oxford University Press, 1996).

15. Coffa, J. Alberto, *The Semantic Tradition: From Kant to Carnap to the Vienna Station* (Cambridge: Cambridge University Press, 1992).

16. Cooper, John, *The Evolution of Reason: Logic as a Branch of Biology* (Cambridge: Cambridge University Press, 2003).

17. Craig, William Lane and Quentin Smith, "Does God Exist?" debate at Harvard, 2003. http://www.leaderu.com/offices/billcraig/docs/craig-smith_harvard02.html.

18. _____ and J. P. Moreland, *Naturalism: A Critical Analysis* (London: Routledge, 2000).

19. _____, "Philosophical and Scientific Pointers to *Creatio ex Nihilo*," *Contemporary Perspectives on Religious Epistemology*, eds. R. Douglas Geivett and Brendan Sweetman (New York: Oxford University Press, 1992) pp. 186-87.

20. ____, The Son Rises: The Historical Evidence for the Resurrection of Jesus (Eugene, OR: Wipf and Stock Press, 1981) p. 15.

21. Crawford, Dan D., "Does Evolutionary Science Rule out the Theistic God?" *Philosophia Christi*, Vol. 5, No. 1, 2003.

22. Dawkins, Richard, The Blind Watchmaker (New York: Norton, 1986).

23. de Chardin Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: HarperCollins, 1959).

24. Dembski, William, Intelligent Design (Downers Grove, IL: InterVarsity Press, 1999).

25. Dennes, William, "The Categories of Naturalism," in Yervant Krikorian, *Naturalism and the Human Spirit* (New York: Columbia University Press, 1944).

26. Devitt, Michael, "Naturalism and the A Priori," Philosophical Studies, Vol. 92, 1998.

27. Dewey, John, "The Development of American Pragmatism,"

28. Fodor, Jerry, "Is Science Biologically Possible?" in Bielby, ed., *Naturalism Defeated*?

29. _____, "Semantics, Wisconsin Style," reprinted in *A Theory of Content and Other Essays* (Cambridge, MA, 1990), p. 32, originally published in *SYNTHESE*, 59, 1984, p. 32.

30. Forrest, Peter, God Without the Supernatural (Ithaca, NY: Cornell University Press, 1996).

31. Gibbard, Alan, *Wise Choices, Apt Feelings* (Cambridge: Harvard University Press, 1990), cited in John Hare, "Naturalism and Morality."

32. Haack, Susan, Evidence and Inquiry (Oxford: Basic Blackwell, 1993).

33. Hare, John E., "Naturalism and Morality," in Craig and Moreland, *Naturalism: A Critical Analysis*.

34. Hasker, William, "What About a Sensible Naturalism? A Response to Victor Reppert," *Philosophia Christi*, Vol. 5, No. 1, 2003.

35. Hylton, Peter, "Quine's Naturalism," in *Midwest Studies, Vol. XIX*, p. 262, emphasis his. Quine's quote from *Roots of Reference* 1973.

36. James, William, Pragmatism (New York: Barnes and Noble, 1907, 2003).

37. Johnson, Philip, Darwin on Trial (Downers Grove, IL: InterVarsity Press, 1993)

38. Kim, Jaegwon, Philosophy of Mind (Boulder, CO: Westview Press, 1996, 1998).

39. King, Jeffrey C., "Can Propositions Be Naturalistically Acceptable?" in *Midwest Studies in Philosophy: Philosophical Naturalism, vol. XIX* (Notre Dame: University of Notre Dame Press, 1993).

40. Kitcher, Philip, Advancement of Science (Oxford: Oxford University Press, 1995).

41. ____, "Function and Design," *Midwest Studies in Philosophy: Philosophy of Science, Vol. XVIII.*

42. ____, "The Naturalists Return," *Philosophical Review*, Vol. 101, 1992, cited in Bonjour, "Against Naturalized Epistemology."

43. Kornblith, Hilary, "Naturalism: Both Metaphysical and Epistemological," *Midwest Studies in Philosophy: Philosophical Naturalism*, vol. XVIII (Notre Dame: Notre Dame Press, 1993).

44. Kornblith in Foley, "Quine and Naturalized Epistemology," in *Midwest Studies, Vol. XIX.*

45. Kreeft, Peter and Ronald K. Tacelli, *Pocket Handbook of Christian Apologetics* (Downers Grove, IL: InterVarsity Press, 2003).

46. Kuhn, Thomas S., *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1962, 1996).

47. Lamprecht, Sterling, *The Metaphysics of Naturalism* (New York: Appleton, Century, Crofts, 1961).

48. Larmer, Robert, "Is Methodological Naturalism Question-Begging?" *Philosophia Christi*, No. 5, Vol. 1, 2003.

49. Laudan, Larry, Science and Rlativism: Some Key Controversies in the Philosophy of Science (Chicago: University of Chicago Press, 1990).

50. _____, Science and Values (Berkeley: University of California Press, 1984a).

51. Lewis, C. S., "Religion and Science," in *God in the Dock* (Grand Rapids, MI: Eerdmans, 1970).

52. _____, "The Grand Miracle," *God in the Dock* (Grand Rapids, MI: Wm. B. Eerdmans, 1970).

53. _____, Miracles (New York: Harper Collins, 1947).

54. Lewontin, Richard, "Billions and Billions of Demons," *The New York Review of Books*, emphasis his, cited in William Dembski's, "Who's Got the Magic?" in Robert T. Pennock, ed.'s, *Intelligent Design Creationism and Its Critics* (Cambridge: MIT Press, 2001).

55. Lowe, E. J., "Causal Closure Principles and Emergentism," *Philosophy*, vol 75, no. 294, October 2000.

56. McGrath, Alister E., *The Science of God: An Introduction to Scientific Theology* (Grand Rapids, MI: Eerdmans, 2004).

57. Moreland, J. P., "Naturalism and the Ontological Status of Properties, *Naturalism: A Critical Analysis*, ed. by Moreland and Craig (London: Routledge, 2000).

58. Moser, Paul K. and Keith Yandell, "Farewell to Philosophical Naturalism," in Craig and Moreland, *Naturalism: A Critical Analysis.*

59. O'Conner, Timothy, "Causality, Mind, and Free Will," *Soul, Body, and Survival* (Ithaca, NY: Cornell University Press, 2001).

60. Olafson, Frederick A., Naturalism and the Human Condition: Against Scientism (London: Routledge, 2001).

61. Papineau, David, "The Rise of Physicalism," http://www.kcl.ac.uk/ip/davidpapineau/Staff/Papineau/OnlinePapers/Risephys.html.

62. ____, Philosophical Naturalism (Oxford: Basil Blackwell, 1993).

63. Parsons, Keith, "Need Reasons Be Causes?" Philosophia Christi, Vol. 5, No. 1, 2003.

64. Pennock, Robert, *Tower of Babel: The Evidence against the New Creationism* (Cambridge: MIT Press, 1999).

- 65. Plantinga, Alvin, "Methodological Naturalism, pt. 1," Origin and Design, 18:1, 1997.
- 66. _____, "Methodological Naturalism, pt. 2," Origin and Design, 18:2, 1997.
- 67. ____, God and Other Minds: A Study of the Rational Justification for Belief in God (Ithaca, NY: Cornell University Press, 1967).
- 68. ____, Warrant and Proper Function (Oxford: Oxford University Press, 1993).
- 69. ____, Warranted Christian Belief (New York: Oxford University Press, 2000).
- 70. _____, "Methodological Naturalism?" in Pennock, Intelligent Design Creationism....

71. _____, "Response to Ramsey," in Beilby, ed., Naturalism Defeated?

72. Pollock, John and Joseph Cruz, *Contemporary Theories of Knowledge*, 2nd ed. (Lanham, MD: Rowman and Littlefield, 1999).

73. Post, John F., "Naturalism," Cambridge Dictionary of Philosophy.

74. Provine, William, "Evolution and the Foundation of Ethics," *MBL Science*, Vol. 3, No. 1, 1987?.

75. Putnam, Hilary, The Many Faces of Realism (New York: Open Court, 1990).

76. Quine, W. V. O., "Epistemology Naturalized," reprinted in *American Philosophical* Naturalism in the Twentieth Century, ed. John Ryder (Amherst, New York: Prometheus, 1994).

77. ____, "Naturalism; or, Living Within One's Means," Dialectica, Vol. 49, 1995b.

78. _____, "Reply to White," in *The Philosophy of W. V. Quine*.

79. _____, *The Pursuit of Truth* (Cambridge: Harvard University Press, 1992), cited in Rea, *World Without Design*.

80. Ramsey, William, "Naturalism Defended," in Beilby, ed., Naturalism Defeated?

81. Rea, Michael, World Without Design: The Ontological Consequences of Naturalism (Oxford: Oxford University Press, 2002).

82. Robbins, J. Wesley, "Religious Naturalism: Humanistic vs. Theistic," <u>http://mypage.iusb.edu/~wrobbins/Essays/religiousnaturalism.html</u>.

83. Rosenberg, Alex, "A Field Guide to Recent Species of Naturalism" <u>British Journal of</u> <u>Philosophy of Science</u>", 47 (1996). 84. ____, *Philosophy of Science: A Contemporary Introduction* (London: Routledge, 2000).

85. Rowe, William L., "Theological Naturalism," Cambridge Dictionary of Philosophy.

86. Ruse, Michael, *Can a Darwinian Be a Christian?* (New York: Oxford University Press: 1996).

87. ____, "Methodological Naturalism under Attack" in Pennock, ed., Intelligent Design Creationism....

88. Schlick, Moritz, "Positivism and Realism," in A. J. Ayer, *Logical Positivism* (New York: Simon and Schuster, 1996).

89. Seigfried, Charlene, "Pragmatism," in *The Cambridge Dictionary of Philosophy*, 2nd ed.

90. Sellars, Wilfrid, *Naturalism and Ontology* (Atascadero, CA: Ridgeview Publishing Co., 1979).

91. Shatz, David, "Skepticism and Naturalized Epistemology," in Wagner and Warner, *Naturalism: A Critical Appraisal*.

92. Simon, Herbert, "A Mechanism for Social Selection and Successful Altruism," *Science* 250 (December, 1990).

93. Smith, Quentin, "Metaphilosophy of Naturalism," *Philo: A Journal of Philosophy*, Vol. 4, No. 2.

94. Sosa, Ernst, "Plantinga's Evolutionary Meditations," in Beilby, ed., Naturalism Defeated?

95. Sturgeon, Scott, Matters of Mind: Consciousness, reason and nature (London: Routledge, 2000).

96. Tye, Michael, "Naturalism and the Problem of Intentionality," *Midwest Studies in Philosophy: Philosophical Naturalism*, vol. XIX.

97. Van Fraassen, Bas C., The Scientific Image (Oxford: Clarendon Oxford Press, 1980).

98. Veblen, Thorstein, *The Theory of the Leisure Class* (New York: Dover Publications, 1994).

99. Wagner, Steven J. and Richard Warner, *Naturalism: A Critical Appraisal* (Notre Dame: University of Notre Dame Press, 1993).

100. Wagner, Steven J., "Why Realism Can't Be Naturalized," in Wagner and Warner, *Naturalism: A Critical Appraisal.*

101. Willard, Dallas, "Knowledge and Naturalism," in Craig and Moreland, *Naturalism:* A Critical Analysis.

102. Wolterstorff, Nicholas P., "Empiricism," *The Cambridge Dictionary of Philosophy*, 2nd ed. (Cambridge: Cambridge University Press, 1995).

103. www.religiousnaturalism.org