

# The Argument from Reason

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## Introduction

In this chapter, I will be considering the argument from reason. The argument, as we shall see, takes a number of forms, but in all instances it attempts to show that the necessary conditions of logical and mathematical reasoning, which undergird the natural sciences as a human activity, require the rejection of all broadly materialist worldviews. I will begin by examining the nature of the argument, identifying the central characteristics of a materialist worldview. In so doing, I will examine the general problem of materialism, and how the argument from reason points to a single aspect of a broader problem. Second, I will examine the argument's history, including the famous Lewis–Anscombe controversy. In so doing, I will indicate how the argument from reason can surmount Anscombe's objections. I will also explain the transcendental structure of the argument. Third, I will examine three subarguments: the argument from intentionality, the argument from mental causation, and the argument from the psychological relevance of logical laws, showing how these demonstrate serious and unsolved difficulties for materialism. Finally, I will examine some popular objections and show that these objections do not refute the argument.

## The Nature of the Argument

### *Materialistic and mentalist worldviews*

“In the beginning was the word.” Although this statement, in its context, is laden with Christological implications, we can also use this statement to illustrate a central feature of various worldviews, including Christian theism. The central idea is that fundamental to reality is that which is intelligible and rational. The metaphysical systems of Plato, Aristotle and the Stoics, Hindu pantheism, and Confucian philosophy as well, share this essential conception, as do the metaphysics of Spinoza and absolute idealism. The intelligible is fundamental to reality, the unintelligible or nonrational is, perhaps, a by-product of the created order, or perhaps our own ignorance and lack of understanding causes an illusion.

We might describe these worldviews as mentalistic worldviews. The mental is fundamental to reality; the nonmental is perhaps a creation, or perhaps a product of ignorance. Reality in mentalistic worldviews has a top-down character to it. The higher, mental levels create the lower levels, or the lower levels emanate from the higher levels. Alternatively, perhaps the lower levels are an illusion generated by the higher levels.

As science has progressed for the last few centuries, a move away from this kind of mentalistic worldview has emerged. According to broadly materialistic worldviews, it would be appropriate to say that in the beginning the word was not. Reason and intelligence are the by-product of centuries of evolution. As the higher primates evolved, they developed large brains, which provided them with true knowledge of the world around us, and this was an effective survival tool for them.

A good deal of debate within Western philosophy between worldviews has taken place between broadly mentalistic and broadly materialistic worldviews. (Sometimes people use the word naturalistic here, but for purposes of this discussion “broadly materialistic” will encompass all doctrines, that one could plausibly call naturalistic.) Christian theism has been the most popular, although by no means the only mentalistic worldview. Among broadly materialistic worldviews, there are options as well. Some proponents of materialistic views are eliminativist with respect to certain features of the mental lives that we commonsensically suppose ourselves to have. Other people in the materialistic camp maintain that we can account for many aspects of our mental lives through a reductive analysis of mind to the material. Still others believe that we can maintain a materialistic worldview by claiming that although we cannot reduce the mind to the material, the mind supervenes on the physical level.

Nevertheless, I am convinced that a broadly materialist view of the world must possess three essential features. First, for a worldview to be materialistic, there must be a mechanistic base level. Now by mechanistic I do not mean necessarily deterministic. There can be brute chance at the basic level of reality in a mechanistic worldview. However, the level of what I will call “basic physics” is free of purpose, free of meaning or intentionality, free of normativity, and free of subjectivity. If one is operating within a materialistic framework, then one cannot attribute purpose to what happens at the basic level. Purpose talk may be appropriate for macrosystems, but it is a purpose that is ultimately the product of a purposeless basic physics. Second, what something means cannot be an element of reality, as it appears at the most basic level. Third, there is nothing normative about basic physics. We can never say that some particle of matter is doing what it is doing because it ought to be doing that. Rocks in an avalanche do not go where they go because it would be a good idea to go there. Finally, basic physics is lacking in subjectivity. The basic elements of the universe have no “points of view,” and no subjective experience. Consciousness, if it exists, must be a “macro” feature of basic elements massed together.

Second, the level of basic physics must be causally closed. That is, if a physical event has a cause at time  $t$ , then it has a physical cause at time  $t$ . Even that cause is not a determining cause; there cannot be something nonphysical that plays a role in producing a physical event. If you knew everything about the physical level (the laws and the facts) before an event occurred, you could add nothing to your ability to predict where the particles will be in the future by knowing anything about anything outside of basic physics.

Third, whatever is not physical, at least if it is in space and time, must supervene on the physical. Given the physical, everything else is a necessary consequence. In short, what the

world is at bottom is a mindless system of events at the level of fundamental particles, and everything else that exists must exist in virtue of what is going on at that basic level. This understanding of a broadly materialist worldview is not a tendentiously defined form of reductionism; it is what most people who would regard themselves as being in the broadly materialist camp would agree with, a sort of “minimal materialism.” Not only that, but I maintain that any worldview that could reasonably be called “naturalistic” is going to have these features, and the difficulties that I will be advancing against a “broadly materialist” worldview thus defined will be a difficulty that will exist for any kind of naturalism that I can think of.

### *A metamodel for philosophical arguments*

Before launching into the discussion of the argument from reason, some preamble about what we can expect philosophical arguments to do is in order. To do this we must consider the scope and limits of arguments. What at maximum one can hope for, in presenting an argument, is that the argument will be a decisive argument in favor of one’s conclusion. A decisive argument is an argument so strong that, with respect to all inquirers, the argument is such that they ought to embrace the conclusion. Even when a decisive argument is present, some may remain unpersuaded, but in these are cases of irrationality.

The difficulty here is that by this standard very few philosophical arguments can possibly succeed. This is largely because in assessing the question of, say, whether God exists, numerous considerations are relevant. Since we can concentrate on only one argument at a time, it is easy to get “tunnel vision” and consider only the piece of evidence that the argument puts forward. However, a person weighing the truth of theism must consider the total evidence. Therefore, I propose to advance a different concept of what an argument can do. I will assume, for the sake of argument, which people will differ as to their initial probabilities concerning the probability that God exists. The question I will then pose is whether the phenomenon picked out by the argument makes theism more likely, or makes atheism more likely. If it makes theism more likely to be true than it would otherwise be before we started thinking about the phenomenon in question, then the argument carries some weight in support of theism. If it makes atheism more likely, then it provides inductive support for atheism.

The model I am proposing is a Bayesian model with a subjectivist theory of prior probabilities. We begin by asking ourselves how likely we thought theism was before we started thinking about the argument in question. We then ask how likely the phenomenon is to exist given the hypothesis of theism. We then ask how likely the phenomenon is to exist whether or not theism is true. If the phenomenon is more likely to exist given theism than it is to exist whether or not theism is true, then the argument carries some inductive weight in favor of theism.

I should add that one could be an atheist and admit that there are some facts in the world that confirm theism. You can also be a theist and maintain that some atheistic arguments enhance the epistemic status of atheism. Some theists have made just this sort of claim on behalf of the argument from evil. That is, they are prepared to concede that the argument from evil does provide some epistemic support for atheism, but not enough epistemic support to make atheists out of them.

### *The argument from reason and natural theology*

We might ask the following question: in what sense is the argument from reason a piece of natural theology? The job of natural theology is supposed to be to provide epistemic support for theism. However, the argument from reason, at best, argues that the ultimate causes of the universe are mental and not physical. This is, of course, consistent with various worldviews that other than traditional theism, such as pantheism or idealism.

It is a good idea to look at what happened in the case of the argument from reason's best-known defender, C. S. Lewis, to see how the argument contributed to his coming to belief in God. Lewis had been what philosophers of the time called a "realist," accepting the world of sense experience and science as rock-bottom reality. Largely through conversations with Owen Barfield, he became convinced that this worldview was inconsistent with the claims we make on behalf of our own reasoning processes (Lewis 1955, p. 208). In response to this, however, Lewis became not a theist but an absolute idealist. It was only later that Lewis rejected absolute idealism in favor of theism, and only after that that he became a Christian (Lewis 1955, pp. 212–29).

So, did the argument from reason that Lewis accepted make theism more likely in his mind? It certainly did. In his mind, it gave him a reason to reject his previously held naturalism. Now you might think of absolute idealism as an atheistic worldview, but it does deny the existence of the theistic God as traditionally understood. However, this considerably narrowed the playing field.

In fact, most arguments for theism actually establish some attributes of the theistic God, but very often they do not establish the existence of all such attributes. Cosmological arguments establish the existence of a cause of the universe, but they do not establish the existence of a designer or establish anything with respect to the moral character of the being they prove. So while the result that the argument from reason seeks to establish is a substantial one, it is not one that establishes theism uniquely even if it is successful.

Consider the following argument:

- 1 Either at least some of the fundamental causes of the universes are more like a mind than anything else, or they are not.
- 2 If they are not, then it is either impossible or extremely improbable that reason should emerge.
- 3 All things being equal, worldviews that render it impossible or extremely improbable that reason should emerge should be rejected in favor of worldviews according to which it is not impossible and not improbable that reason should emerge.
- 4 Therefore, we have a good reason to reject all worldviews that reject the claim that the fundamental causes of the universe are more like a mind than anything else.

Now if you want to hold out the idea that an idealist worldview is nevertheless atheistic, then my argument merely serves to eliminate one of the atheistic options. However, suppose someone originally thinks that the likelihoods are as follows:

Naturalism, 50 percent likely to be true  
 Idealism, 25 percent likely to be true  
 Theism, 25 percent likely to be true

In addition, suppose that someone accepts a version of the argument from reason, and as a result, naturalism drops 30 percentage points. Then those points have to be divided among theism and idealism. Therefore, the epistemic status of theism is enhanced by the argument from reason, if the argument is successful in defeating naturalism.

### *The general problem of materialism*

The argument from reason is best understood as an instance of what I call the general problem with materialism. The difficulty here is that the materialist holds, at the rock-bottom level, that the universe is an empty universe. As Lewis observes:

The process whereby man has come to know the universe is from one point of view extremely complicated; from another it is alarmingly simple. We can observe a single one-way progression. At the outset, the universe appears packed with will, intelligence, life, and positive qualities; every tree is a nymph and every planet a god. Man himself is akin to the gods. The advance gradually empties this rich and genial universe, first of its gods, then of its colours, smells, sounds and tastes, finally of solidity itself as solidity was originally imagined. As these items are taken from the world, they are transferred to the subjective side of the account: classified as our sensations, thoughts, images or emotions. The Subject becomes gorged, inflated, at the expense of the Object. But the matter does not rest there. The same method which has emptied the world now proceeds to empty ourselves. The masters of the method soon announce that we were just mistaken (and mistaken in much the same way) when we attributed “souls” or “selves” or “minds” to human organisms, as when we attributed Dryads to the trees. Animism, apparently, begins at home. We, who have personified all other things, turn out to be ourselves mere personifications. Man is indeed akin to the gods, that is, he is no less phantasmal than they. Just as the Dryad is a “ghost,” an abbreviated symbol for certain verifiable facts about his behaviour: a symbol mistaken for a thing. And just as we have been broken of our bad habit of personifying trees, so we must now be broken of our habit of personifying men; a reform already effected in the political field. There never was a Subjective account into which we could transfer the items which the Subject had lost. There is no “consciousness” to contain, as images or private experiences, all the lost gods, colours, and concepts. Consciousness is “not the sort of noun that can be used that way.” (Lewis 1986, pp. 81–2)

When Lewis says the universe is empty, he means that it is empty of many of the things that are part of our normal existence. As I indicated, at the rock-bottom level, reality is free of normativity, free of subjectivity, free of meaning, and free of purpose. All of these features of what makes life interesting for us are, on a materialist view, late products of the struggle for survival.

On the materialist view, purpose must reduce to Darwinian function. The purposeless motion of matter through space produced beings whose faculties perform functions that enhance their capacity to survive and pass on their genes. The physical is, on even the broadest of materialist views, a closed, nonpurposive system, and any purpose that arises in such a world must be a by-product of what, in the final analysis, lacks purpose. As Daniel Dennett puts it,

Psychology of course must not be question-begging. It must not explain intelligence in terms of intelligence, for instance assuming responsibility for the existence of intelligence to the munificence of an intelligent creator, or by putting clever homunculi at the control panels of

the nervous system. If this were the best psychology could do, the psychology could not to the job assigned to it. (Dennett 1976, p. 171)

In the final analysis, “purpose” exists in the world not because there is, ultimately, any intended purpose for anything, but rather because things serve Darwinian functions. The claim that this type of analysis fails to adequately capture the kinds of purposiveness that exist provides the basis for arguments from design based on, for example, irreducible complexity.

Just as clearly, according to materialist worldviews, reality is free of subjectivity. The facts about the physical world are objective facts that are not relative to anyone’s subjectivity. Moreover, once again, arguments from consciousness are advanced to try to show that a physicalist perspective on the world is going to leave out subjective inner states. Hence, we have arguments that point out that when all the physical facts about pain are given, we do not seem to have the grounding for, say, the state of what it is like to be in pain. We can imagine a possible world in which all the physical states obtain but whatever it is like to be in pain is missing. Arguments from consciousness arise from these considerations.

Moreover, there is the fact that normativity is absent at the physical level. There is the notorious difficulty of getting an “ought” from an “is.” Let us begin with all the naturalistic facts about, let us say, the homicides of Ted Bundy. We can include the physical transformations that took place at that time, the chemical changes, the biology of the death process in each of these murders, the psychological state of the killer and his victims, the sociology how membership in this or that social group might make one more likely to be a serial killer of a serial killer victim, and so on. From all of this, can we conclude that these homicides were morally reprehensible acts? We might know that most people believe them to be morally reprehensible acts, but whether they are reprehensible acts or not does not follow from any of this information. So, if all facts supervene on the physical facts, how can it be true that these actions were morally wrong?

However, there are other types of norms. In addition to the norms of morality, there are the norms of rationality. Some patterns of reasoning are correct and others are not correct. We ought to draw the conclusion if we accept the premises of a valid argument, and it is not the case that we ought to draw the conclusion of an argument if the argument is invalid. Some people have raised the question of how these norms can exist if naturalism is true. As William Lycan observed,

It’s interesting that this parallel [between ethics and epistemology] goes generally unremarked. Moral subjectivism, relativism, emotivism, etc. are rife among both philosophers and ordinary people, yet very few of these same people would think even for a moment of denying the objectivity of epistemic value; that is, of attacking the reality of the distinction between reasonable and unreasonable belief. I wonder why that is? (Lycan 1985, p. 137)

Hence, there are antimaterialist arguments that ask how it is possible for rational norms to exist. Thomas Nagel wrote,

Reason, if there is such a thing, can serve as a court of appeal not only against the received opinions and habits of our community, but also against the peculiarities of our personal perspective. It is something each individual can find within himself, but at the same time has universal authority. Reason provides, mysteriously, a way of distancing oneself from common opinion and received practices that is not a mere elevation of individuality—not a

determination to express one's idiosyncratic self rather than go along with everyone else. Whoever appeals to reason purports to discover a source of authority within himself that is not merely personal, societal, but universal, and that should persuade others who are willing to listen to it. (Nagel 1997, p. 3)

Further, on the face of things at least, physical states are not about other physical states. Physics suggests that particles and states have relations to one another, but it does not seem to be part of physics to say that one state is about another state. Hence, arguments from intentionality are advanced to challenge materialistic worldviews. What is more, there is certainly no propositional content at the physical level. It does seem to be possible to entertain a proposition. Here I am not even talking about belief (I think that p is true) or desire (I want p to be true) but just the process of entertaining the proposition and knowing what it means. It seems possible for propositions to be true or false, and for certain propositions to follow from others.

### *Error theories and the argument from reason*

At this point I am not endorsing these arguments; I am only saying that arguments of this sort are possible. One way for the skeptic to respond to those arguments is with an error theory. We think there are objective moral norms, but we are mistaken: moral norms are subjective. We think conscious, subjective states really exist, but strictly speaking, they do not. As Susan Blackmore puts it:

... each illusory self is a construct of the memetic world in which it successfully competes. Each selfplex gives rise to ordinary human consciousness based on the false idea that there is someone inside who is in charge. (Blackmore 1999, p. 236)

By referring to the self as illusory, she is saying that what we ordinarily think of as consciousness does not exist. As we think of consciousness, we think of some center in which all mental states inhere. According to the *Stanford Encyclopedia of Philosophy*, consciousness has these characteristics: a first-person character, a qualitative character, a phenomenal structure, subjectivity, a self-perspectival organization, unity, intentionality, and dynamic flow (Van Gulick 2007). Error theories of consciousness such as Blackmore's – instead of showing how these aspects of consciousness can exist in a materialist world – suggest that we are mistaken in thinking that these elements which we thought of as consciousness really exist.

Defenders of materialism usually use three general types of arguments to criticize the family of arguments I presented earlier. They use Error replies if they think the item that the antimaterialist is setting up for explanation can be denied. They use Reconciliation objections if they suppose that the item in question can be fitted within a materialist ontology. Moreover, they also use Inadequacy objections to argue that whatever difficulties there may be in explaining the matter in materialist terms, it does not get us any better explanations if we accept some mentalistic worldview such as theism. We can see this typology at work in responses to the argument from objective moral values. Materialist critics of the moral argument can argue that there is really no objective morality, they can say objective morality is compatible with materialism, or they can use arguments such as the Euthyphro dilemma to argue that whatever we cannot explain about morality in materialist terms cannot better be explained by appealing to nonmaterial entities such as God.

However, it is important to notice something about materialist philosophies. They not only believe that the world is material, they also perforce believe that the truth about that material world can be discovered, and is being discovered, by people in the sciences, and that, furthermore, there are philosophical arguments that ought to persuade people to eschew mentalistic worldviews in favor of materialistic ones. They do think that we can better discover the nature of the world by observation and experimentation than by reading tea leaves. Arguments from reason are arguments that appeal to necessary conditions of rational thought and inquiry. Thus, they have what on the face of things is an advantage over other arguments, in that they have a built-in defense against error theory responses. If there is no truth, they cannot say that materialism is true. If there are no beliefs, then they cannot say we ought to believe that materialism is true. If there is no mental causation, then they cannot say that our beliefs ought to be based on supporting evidence. If there are no logical laws, then we cannot say that the argument from evil is a good argument. If our rational faculties as a whole are unreliable, then we cannot argue that religious beliefs are formed by irrational belief-producing mechanisms. Hence, arguments from reason have what I call a transcendental impact – that is, appeal to things that, if denied, undermine the most fundamental convictions of philosophical materialists. There cannot be a scientific proof that scientists do not exist that would undermine the scientific enterprise that constitutes the very foundation of materialism.

### *The reality of rational inference*

The argument from reason focuses on cases where we infer one proposition from another proposition. I will not deny that there are other ways of acquiring true and justified beliefs. Many have argued that, for example, I can have a justified belief that my eyeglasses are here on my computer table without drawing any inferences at all, but rather, just by perceiving my glasses. I should add that this “direct realist” view of perception is by no means universal among philosophers; there are many who maintain that what we are directly aware of are “sense data” and that we infer physical objects from sense data. John Beversluis, for example, has argued that Lewis’s argument from reason relies on an inference-from-sense-data theory of the knowledge of physical objects, and fails unless that theory is defensible (Beverluis 2007, pp. 148–9). However, even if Lewis himself held such a position, (and I think he probably did, although the evidence is less than crystal clear), the argument does not *need* to rely on inferential theories of sensory knowledge. The reason that even if we concede that there is some knowledge that is not inferred from sensations and therefore does not depend on the validity of reasoning, advocates of materialistic worldviews are committed to the existence of *at least some* inferential knowledge. They must hold that *scientists* make rational and mathematical inferences, they must hold that they accept materialism because there is good reason to believe it. Even if we accept the “direct realist” view with respect to physical objects, there is a whole lot of rationally inferred knowledge that no materialist can dare deny, on pain of undermining both science and naturalism. The claim that rational inferences are essential to the possibility of science even though there maybe other sources of justified beliefs is sometimes overlooked by persons who respond to the argument from reason, so I will name this argument the critical subset argument. Thus, I do not need to agree with C. S. Lewis that “*All possible knowledge . . . depends on the validity of reasoning*” (italics added). Even if only a subclass of knowledge

depends on the validity of reasoning, the subclass of knowledge that does, it is a subclass critical to the materialist's enterprise.

Materialists maintain, of course, that what is real are the sorts of things that lend themselves to scientific analysis, but they also cannot escape believing that there are scientists and mathematicians whose minds are capable of performing those scientific analyses. Consider, for example, a doctrine I call "hyper-Freudianism," the view that all beliefs are the product of unconscious drives, and that no one believes anything they believe for the reasons that they think they believe it. An atheist could say of the theist, "You think you believe in God because of the arguments of Christian apologists, but you really believe it because you are searching for a cosmic father figure to calm your fears." Alternatively, a theist can say "You think you are an atheist because of the evidence of evolution and the problem of evil, but I know that you just want to kill your father." However, this, of course, can be pushed still further to include all beliefs. However, that is just the trouble, if it is pushed that far, then it has to be extended to the belief in hyper-Freudianism itself. If someone tries to present evidence for hyper-Freudianism, he is doing something that can only be done if hyper-Freudianism is false.

Consider the following classic syllogism:

- 1 All men are mortal.
- 2 Socrates is a man.
- 3 Therefore, Socrates is mortal.

If it is a consequence of naturalism that nothing like this ever happens, that no one ever draws these types of conclusions from premises, then the belief that naturalism is true is in a lot of trouble.

Consider, for example, the role of mathematics in science. Mathematical inferences were critical in making it possible for Newton to discover the theory of gravity and Einstein to discover relativity. If we believe that natural science gets the truth about the world, then we must not deny that mathematical inferences exist. If we are persuaded that the argument from evil is a good argument against theism, then we must not accept a position that entails that no one is ever persuaded by an argument.

## The History of the Argument

### *Antecedents of Lewis's argument from reason*

The argument from reason did not originate with Lewis. Something like it can be traced all the way back to Plato, and Augustine had an argument that said that our knowledge of eternal and necessary truths showed that God exists. Descartes maintained that the higher rational processes of human beings could not be accounted for in materialistic terms, and while Kant denied that these considerations provided adequate proof of the immortality of the soul, he did think they were sufficient to rule out any materialist account of the mind (Allison 1989). However, naturalism or materialism as a force in Western philosophy increased considerably in 1859, when Charles Darwin published the *Origin of Species*.

The earliest post-Darwinian presentation of the Argument from Reason that I am familiar with, and one that bears a lot of similarities to Lewis's argument, is found in Prime

Minister Arthur Balfour's *The Foundations of Belief*. Lewis never mentions *The Foundations of Belief* in his writings, but he does say in one place that Balfour's subsequent book *Theism and Humanism* is "a book too little read (Balfour 1906, 1915)." Also, J. B. Pratt, in his book *Matter and Spirit*, presented a version of the argument from reason as an argument for mind–body dualism (Pratt 1922).

### *Lewis's first edition argument*

In the first edition of *Miracles*, Lewis presents the version of the argument from reason that Anscombe criticized. We can formalize it as follows:

- 1 No thought is valid if it can be fully explained as the result of irrational causes.
- 2 If naturalism is true, then all beliefs can be explained in terms of irrational causes.
- 3 Therefore, if naturalism is true, then no thought is valid.
- 4 If no thought is valid, then the thought "materialism is true" is not valid.
- 5 Therefore, if materialism is true, then the belief "materialism is true" is not valid.
- 6 A thesis whose truth entails the invalidity of the belief that it is true ought to be rejected, and its denial ought to be accepted.
- 7 Therefore, naturalism ought to be rejected, and its denial accepted. (Lewis 1947, pp. 26–31)

This is the argument that drew the criticisms of Roman Catholic philosopher and Wittgenstein student Elizabeth Anscombe. This critique is significant because of the way in which it forced Lewis to develop and refine his arguments. We will examine three challenges Anscombe put to Lewis's argument to see how the argument needs to be refined to meet the challenges.

### *Anscombe's first objection: irrational versus nonrational*

Is it correct for Lewis to talk about physically caused events as having irrational causes? Irrational beliefs, one would think, are beliefs that are formed in ways that conflict with reason: wishful thinking, for example, or with fallacious arguments. On the other hand, when we speak of a thought having a nonrational cause, we need not be thinking that there is any conflict with reason (Anscombe 1981, pp. 224–5).

This distinction, while legitimate, is hardly sufficient to refute Lewis's argument. Remember, a materialist philosopher not only believes that some beliefs are justified; a materialist, if she thinks that science is true, thinks that some people do draw correct logical and mathematical inferences. While not all justified beliefs are inferred from other beliefs, a contemporary materialist is not in a position to maintain that beliefs are formed as a result of rational inferences.

For that reason, it is possible to restate Lewis's argument in such a way that it does not make reference to irrational causes, and indeed in Lewis's revised chapter the phrase "irrational causes" does not appear.

- 1 No belief is rationally inferred if it can be fully explained in terms of nonrational causes.

- 2 If naturalism is true, then all beliefs can be fully explained in terms of nonrational causes.
- 3 Therefore, if naturalism is true, then no belief is rationally inferred.
- 4 If any thesis entails the conclusion that no belief is rationally inferred, then it should be accepted and its denial accepted.
- 5 Therefore, naturalism should be rejected and its denial accepted.

However, it seems that I could go a bit farther in defending Lewis against Anscombe's critique here. In my 1989 essay "The Lewis-Anscombe Controversy: A Discussion of the Issues," and in my work *C. S. Lewis's Dangerous Idea* (Reppert 2003a), I discussed Anscombe's insistence that Lewis distinguish between irrational causes and nonrational causes. Irrational causes would be things such as being bitten by a black dog as a child gives you a complex and causes you to believe that all black dogs are dangerous. Nonrational causes are physical events or physical causes. Interestingly enough, this passage makes the distinction that Anscombe insisted upon between nonrational and irrational causes, but in this passage Lewis instead distinguishes two senses of irrational:

Now the emotion, thus considered by itself, cannot be either in agreement or disagreement with Reason. It is irrational not as a paralogism is irrational, but as a physical event is irrational: it does not rise even to the dignity of error. (Lewis 1947, p. 30)

Now, in this passage, Lewis draws the exact distinction on which Anscombe insisted. The only difference here is that Lewis distinguishes two senses of the term "irrational" instead of distinguishing between irrational and nonrational. Nevertheless, was Lewis's usage of the term "irrational" wrong? Going to a dictionary definition of "irrational," I think not. The first dictionary entry for "irrational" in [www.dictionary.com](http://www.dictionary.com) is "without the faculty of reason; deprived of reason." Nevertheless, Lewis changed from "irrational" to "nonrational" to accommodate Anscombe's criticism. However, physical causes are, by nature, irrational causes in the sense presented in the dictionary definition, so his use of "irrational" was not mistaken.

### *Anscombe's second objection: paradigm cases and skeptical threats*

Anscombe also objected to the idea that Lewis had argued that, if naturalism were true, then reasoning would not be valid. She asks, "What can you mean by valid beyond what would be indicated by the explanation you give for distinguishing between valid and invalid reasoning, and what in the naturalistic hypothesis prevents the explanation from being given or meaning what it does" (Anscombe 1981, p. 226). This is a paradigm case argument, and the point is this: we can ask whether this particular argument is a good one, but does it really make sense to argue that reasoning might itself be invalid? Anscombe maintains that, since the argument that some particular piece of reasoning is invalid involves contrasting it with some other kinds of reasoning that are valid, the question "Could reasoning really be valid?" is really a nonsense question.

One way of using the argument from reason would be to use it as a skeptical threat argument. The idea is that if naturalism is true we will be unable to refute skeptical arguments against reasoning in general. The problem here is that it is far from clear that anyone,

naturalist or not, can refute skepticism about reasoning, nor is it considered any great merit for any metaphysical theory that it would be possible to refute this kind of thoroughgoing skepticism. And, if we need to refute skepticism in order to accept some worldview, then it is not at all clear that theism will do that either. If we use our theistic beliefs to defend the basic principles of reasoning, then we would have to formulate that into an argument and then *presuppose* our ordinary canons of logical evaluation in the presentation of that very argument, thereby begging the question.

In my previous writings on the subject, I present the argument from reason as a best explanation argument. One should assume, at least to begin with, that human beings do reach true conclusions by reasoning, and then try to show, given the fact that people do reach true conclusions by reasoning, that this is best explained in terms of a theistic metaphysics as opposed to a naturalistic metaphysics. Now if we present the argument in this way and then an opponent comes along and says, "I see that your argument presupposes that we have beliefs. I do not think we do, so your argument fails," then we can reply to him by saying that if there are no beliefs then you do not believe what you are saying. Consequently, the status of your own remarks as *assertions* is called into question by your own thesis that there are no beliefs, and that this is going to end up having a devastating effect on the very sciences on which you base your arguments. Presenting the argument in this way, it seems to me, gets around the problems based on the paradigm case argument.

William Hasker, however, while previously endorsing the gist of my claim that the argument should be a best explanation argument rather than a skeptical threat argument, offered another suggestion in his mostly friendly response to me in *Philosophia Christi*. He wrote:

However, if the Skeptical Threat strategy claims too much for the Argument from Reason, there is a danger that the Best Explanation strategy may claim too little. On the face of it, this strategy seems to invite the following kind of response: "It may be true that we naturalists have not, so far, produced a satisfying explanation for the process of rational inference. But there is nothing especially surprising or alarming about this fact. Finding good scientific explanations is hard work and often takes considerable time, and the relevant sciences are still in their infancy. We must simply be prepared to wait a bit longer, until we reach the stage where the desired explanations can be developed. (Hasker 2003, p. 61)

He then makes the following recommendation:

The objection is not merely that naturalism has not yet produced an explanation of rational inference and the like, as though this were a deficiency that could be remedied by another decade or so of scientific research. The problem is that the naturalist is committed to certain assumptions that preclude in principle any explanation of the sort required. The key assumptions are three in number: mechanism (the view that fundamental physical explanations are nonteleological), the causal closure of the physical domain, and the supervenience of the mental on the physical. So long as these assumptions remain, no amount of ingenious computer modeling can possibly fill the explanatory gap. In order to bring out this feature of the situation, I propose that the first two stages of the Argument from Reason are best viewed as a transcendental argument in roughly the Kantian sense: They specify the conditions which are required for experience of a certain sort to be possible—in this case the kind of experience found in the performance of rational inference. (Hasker 2003, p. 61)

I have already discussed the transcendental impact of the arguments from reason, and I think Hasker's suggestion is a good one.

In my previous treatment of the argument from reason, I presented nine presuppositions of rational inference. Consider the following list of presuppositions of reason. These presuppositions have transcendental justifications. The justification goes from the fact that there is at least one person who has made a rational inference (such as a mathematical calculation) and establishes that these conditions must obtain if that rational inference has taken place.

- 1 States of mind have a relation to the world we call intentionality, or aboutness.
- 2 Thoughts and beliefs can be either true or false.
- 3 Human can be in the condition of accepting, rejecting, or suspending belief about propositions.
- 4 Logical laws exist.
- 5 Human beings are capable of apprehending logical laws.
- 6 The state of accepting the truth of a proposition plays a crucial causal role in the production of other beliefs, and the propositional content of mental states is relevant to the playing of this causal role.
- 7 The apprehension of logical laws plays a causal role in the acceptance of the conclusion of the argument as true.
- 8 The same individual entertains thoughts of the premises and then draws the conclusion.
- 9 Our processes of reasoning provide us with a systematically reliable way of understanding the world around us. (Reppert 2003a, p.73)

Unless all of these statements are true, it is incoherent to argue that one should accept naturalism based on evidence of any kind. Nor would it be possible to accept the claim that one should accept evolution as opposed to creationism because there is so much evidence for evolution. Nor could one argue that one should be supremely confident that the use of the scientific method will result in an accurate understanding of reality. Unless all these statements are true, there are no scientists and no one is using the scientific method.

To see how the transcendental justification works, consider the possibility that reality consists of nothing but a turnip with whipped cream on top. Of course this flies in the face of all the empirical evidence, but we can argue further that if this were so no one would be able to reason to that conclusion. Given the way this argument is structured, one could not use the paradigm case argument to argue that, since there has to be a contrast between valid and invalid inference, inference would also have to be possible in the turnip-world. No, the very fact that we can make such a distinction provides a transcendental basis for believing that we do not live in the turnip-world.

*Anscombe's main objection: the ambiguity of "why," "because,"  
and "explanation"*

The third and main Anscombe objection to Lewis's argument is that he fails to distinguish between different senses of the terms "why," "because," and "explanation." There are, she suggests, four explanation-types, which have to be distinguished:

- 1 Naturalistic causal explanations, typically subsuming the event in question under some physical law
- 2 Logical explanation, showing the logical relationship between the premises and the conclusion
- 3 Psychological explanations, explaining why a person believes as he or she does
- 4 Personal history explanations, explaining how, as a matter of someone's personal history, that person came to hold a belief

She suggests that explanations of different types can be compatible with one another. Thus, a naturalistic causal explanation might be a complete answer to one type of question with respect to how someone's belief came to be what it was, but that explanation might be compatible with a "full" explanation of a different type (Lewis 1978, pp. 16–7).

Now what is interesting is that Lewis, in reformulating his own argument, not only draws the distinctions on which Anscombe had insisted; he actually makes these distinctions the centerpiece of his revised argument. He makes a distinction between cause-and-effect relations on the one hand, and ground-and-consequent relations on the other. Cause-and-effect relations say how a thought was produced, but ground-and-consequent relations indicate how thoughts are related to one another logically. However, in order to allow for rational inference, there must be a combination of ground-consequent and cause-effect relationships, which, Lewis says, cannot exist if the world is as the naturalist says that it is.

Claiming that a thought has been rationally inferred is a claim about how that thought was caused. Any face-saving account of how we come to hold beliefs by rational inference must maintain that "One thought can cause another thought not by being, but by being, a ground for it" (Lewis 1978, p. 17).

However, there are a number of features of thoughts as they occur in rational inference that set them apart from other beliefs.

Acts of thinking are no doubt events, but they are special sorts of events. They are "about" other things and can be true or false. Events in general are not "about" anything and cannot be true or false. . . . Hence acts of inference can, and must be considered in two different lights. On the one hand they are subjective events in somebody's psychological history. On the other hand, they are insights into, or knowings of, something other than themselves. (Lewis 1978, p. 17)

So here, we already have three features of acts of thinking as they occur in rational inference. First, these thoughts have to be about something else, and second, they can be true or false. Third, their propositional contents must cause other thoughts to take place. But there is more:

What from the first point of view is a psychological transition from thought A to thought B, at some particular moment in some particular mind is, from the thinker's point of view a perception of an implication (if A, then B). When we are adopting the psychological point of view we may use the past tense, "B followed A in my thoughts." But when we assert the implication we always use the present – "B follows from A." If it ever "follows from" in the logical sense it does so always. Moreover, we cannot reject the second point of view as a subjective illusion without discrediting human knowledge. (Lewis 1978, p. 17)

So now, in addition to the three features of thoughts as they occur in rational inference, we can add a fourth, that is, that the act of inference must be subsumed under a logical law. Moreover, the logical law according to which one thought follows another thought is true always. It is not local to any particular place or time; indeed, laws of logical obtain in all possible worlds.

Lewis then argues that an act of knowing “is determined, in a sense, by what is known; we must know it to be thus because it is thus” (Lewis 1978, p. 18). P’s being true somehow brings it about that we hold the belief that P is true. Ringing in my ears is a basis for knowing if a ringing object causes it; it is not knowledge if it is caused by a tinnitus.

Anything that professes to explain our reasoning fully without introducing an act of knowing thus solely determined by what it knows, is really a theory that there is no reasoning. But this, as it seems, is what Naturalism is bound to do. It offers what professes to be a full account of our mental behaviour, but this account, on inspection, leaves no room for the acts of knowing or insight on which the whole value of our thinking, as a means to truth, depends. (Lewis 1978, p. 18)

If a broadly materialist, or what Lewis calls a naturalist worldview, is true, how is it possible for our acts of rational inference to occur because reality has a feature that corresponds to that inferential process? That is the question Lewis thinks a materialist cannot answer.

### *Unlimited explanatory compatibility and the noncausal view of reasons*

This is a point at which Anscombe, in her brief response to Lewis’s revised argument, objects, claiming that Lewis did not examine the concept of “full explanation” that he was using. Anscombe had expounded a “question relative” conception of what a “full explanation” is; a full explanation gives a person everything they want to know about something. What this appears to result in is the idea of an unlimited explanatory compatibilism. It is further supported if one accepts, as Anscombe did when she wrote her original response to Lewis, the Wittgensteinian doctrine that reasons-explanations are not causal explanations at all. They are rather what sincere responses that are elicited from a person when he is asked what his reasons are. As Anscombe puts it:

It appears to me that if a man has reasons, and they are good reasons, and they genuinely are his reasons, for thinking something—then his thought is rational, whatever causal statements can be made about him. (Anscombe 1981, p. 229)

Keith Parsons adopted essentially the same position in response to my version of the argument from reason when he wrote:

My own (internalist) view is that if I can adduce reasons sufficient for the conclusion Q, then my belief that Q is rational. The causal history of the mental states of being aware of Q and the justifying grounds strike me was quite irrelevant. Whether those mental states are caused by other mental states, or caused by other physical states, or just pop into existence uncaused, the grounds still justify the claim. (Parsons 2000, p. 101)

However, the claim that reasons-explanations are not causal explanations at all seems to me to be completely implausible. As Lewis puts it:

Even if grounds do exist, what have they got to do with the actual occurrence of belief as a psychological event? If it is an event it must be caused. It must in fact be simply one link in a causal chain which stretched back to the beginning and forward to the end of time. How could such a trifle as lack of logical grounds prevent the belief's occurrence and how could the existence of grounds promote it? (Lewis 1978, p. 16)

If you were to meet a person, let us call him Steve, who could argue with great cogency for every position he held, you might be inclined to consider him a very rational person. However, suppose that on all disputed questions Steve rolled dice to fix his positions permanently and then used his reasoning abilities only to generate the best-available arguments for those beliefs selected in the above-mentioned random method. I think that such a discovery would prompt you to withdraw from him the honorific title "rational." Clearly, we cannot answer the question of whether or not a person is rational in a manner that leaves entirely out of account the question of how his or her beliefs are produced and sustained.

There do seem to be limits on explanatory compatibility. Consider how we explain how presents came to appear under the Christmas tree. If we accept the explanation that, in spite of the tags on the presents that say Santa Claus, Mom and Dad in fact put the presents there, this would of course conflict with the explanation in terms of the activity of Santa Claus. An explanation of disease in terms of microorganisms is incompatible with an explanation in terms of a voodoo curse. In fact, naturalists are the first to say, "We have no need of that hypothesis" if a materialistically acceptable explanation can be given where a supernatural explanation had previously been accepted.

Further, explanations, causal or noncausal, involve *ontological commitments*. That which plays an explanatory role is supposed to *exist*. Therefore, if we explain the existence of the presents under the Christmas tree in terms of Santa Claus, I take it means that Santa Claus exists in more than just a nonrealist "Yes, Virginia" sense. Anscombe seemed to think that all that is involved in naturalism is that every event can be given a naturalistic explanation. But either naturalism or materialism are typically defined in ontological terms. The main page of the Internet Infidels Web site quotes the philosopher Paul Draper:

The hypothesis that the physical world is a 'closed system' in the sense that nothing that is neither a part nor a product of it can affect it." More simply, it is the denial of the existence of supernatural causes. In rejecting the reality of supernatural events, forces, or entities, naturalism is the antithesis of supernaturalism.<sup>1</sup>

What this means is that even if reasons-explanations do not exclude physical explanations, even if reasons-explanations are somehow not causal explanations, the naturalist is not out of the woods. The materialist maintains that the universe, at its base, is governed by blind matter rather than reasons. So if reasons-explanations are true, we still need to know why they are true and why reasons exist in a world that is fundamentally nonrational.

1. Paul Draper, as quoted on the Internet Infidels home page ([www.infidels.org](http://www.infidels.org)).

In her final response to Lewis, Anscombe made two complaints: one was that Lewis did not repair the concept of a “full explanation,” and that he did not adequately explore the idea of “an act of knowing solely determined by what is known.” On the other hand, she admitted that, “We haven’t got an answer” to the question “Even if grounds do exist, what have they got to do with the actual occurrence of belief?” (Anscombe 1981, pp. ix–x).

Because of the ambiguities connected with the idea of “full explanation,” my own development of the argument from reason has avoided talk about full explanations, but has instead focused on the ideas of mechanism, causal closure, and supervenience. Given these three doctrines, it seems as if some kinds of explanations face the prospect of being ruled out. Even the most nonreductive forms of materialism maintain that there can be only one kind of causation in a physicalist world, and that is physical causation. It is not enough simply to point out that we can give different “full” explanations for the same event. Of course, they can. Nevertheless, given the causal closure thesis of materialism, there cannot be causal explanations that require nonmaterialist ontological commitments. The question that is still open is whether the kinds of mental explanations required for rational inference are compatible with the limitations placed on causal explanations by materialism. If not, then we are forced to choose between saying that there are rational inferences and accepting materialism. However, materialism is invariably presented as the logical conclusion of a rational argument. Therefore, the choice will have to be to reject materialism.

Second, Anscombe insisted that Lewis needed to clarify his conception of “an act of knowing” determined by “what is known.” Now, in one sense, this can be made clear by reflecting on the correspondence theory of truth. If I am in the state of believing that the cat is on the mat, which corresponds to some state of the world, what makes it a case of knowledge instead of just a lucky guess or something like that? If the cat is on the mat, and I know that, then somehow the cat’s being on the mat has to play some role in producing the belief in me that the cat is on the mat. Otherwise, the cat could be anywhere but on the mat and I would still think it was there. However, in place of this concept, I prefer to employ the set of transcendently established presuppositions of reason and science that I listed earlier.

### *How could reason emerge?*

Lewis maintains that if we acquired the capability for rational inference in a naturalistic world, it would have to have arisen either through the process of evolution or because of experience. However, he says that evolution will always select for improved responses to the environment, evolution could do this without actually providing us with inferential knowledge. As he says:

Once, then, our thoughts were not rational. That is, all our thoughts once were, as many of our thoughts still are, merely subjective events, not apprehensions of objective truth. Those which had a cause external to ourselves at all were (like our pains) responses to stimuli. Now natural selection could operate only by eliminating responses that were biologically hurtful and multiplying those which tended to survival. But it is not conceivable that any improvement of responses could ever turn them into acts of insight, or even remotely tend to do so. The relation between response and stimulus is utterly different from that between knowledge and the truth known. Our physical vision is a far more useful response to light than that of the cruder organisms which have only a photo-sensitive spot. But neither this improvement nor

any possible improvements we can suppose could bring it an inch nearer to being a knowledge of light. It is admittedly something without which we could not have had that knowledge. But the knowledge is achieved by experiments and inferences from them, not by refinement of the response. It is not men with specially good eyes who know about light, but men who have studied the relevant sciences. In the same way our psychological responses to our environment—our curiosities, aversions, delights, expectations—could be indefinitely improved (from the biological point of view) without becoming anything more than responses. Such perfection of the non-rational responses, far from amounting to their conversion into valid inferences, might be conceived as a different method of achieving survival—an alternative to reason. A conditioning which secured that we never felt delight except in the useful nor aversion save from the dangerous, and that the degrees of both were exquisitely proportional to the degree of real utility or danger in the object, might serve us as well as reason or in some circumstances better. (Lewis 1978, p. 19)

In addition, while experience might cause us to expect one event to follow another, to logically deduce that we should expect one effect to follow another is not something that could be given in experience. Experience can show us that A succeeds B, but it cannot show us that A follows necessarily from B. As Lewis writes:

My belief that things which are equal to the same thing are equal to one another is not at all based on the fact that I have never caught them behaving otherwise. I see that it ‘must’ be so. (Lewis 1978, p. 20)

Lewis then makes his case that theism, at least, can avoid the kinds of problems that the Naturalist faces:

On these terms the Theist’s position must be a chimera nearly as outrageous as the Naturalist’s. (Nearly, not quite; it abstains from the crowning audacity of a huge negative). But the Theist need not, and does not, grant these terms. He is not committed to the view that reason is a comparatively recent development moulded by a process of selection which can select only the biologically useful. For him, reason—the reason of God—is older than Nature, and from it the orderliness of Nature, which alone enables us to know her, is derived. For him, the human mind in the act of knowing is illuminated by the Divine reason. It is set free, in the measure required, from the huge nexus of non-rational causation; free from this to be determined by the truth known. And the preliminary processes within Nature which led up to this liberation, if there were any, were designed to do so. (Lewis 1978, pp. 22–3)

### *The argument since Lewis*

Lewis’s argument has been echoed in various places since the debate with Anscombe. One of the lesser-known developments in the argument was a defense of Lewis against Anscombe in his book *Christian Theology and Natural Science* by Eric Mascall (1956, pp. 214–6). The argument appeared in various other essays. J. R. Lucas claims that the central argument of his book *Freedom of the Will* was inspired by Lewis’s argument, although he imports Godel’s theorem to defend his central argument (Lucas 1970). Perhaps the best defense of the argument between the 1960s and the 1990s came in William Hasker’s essay “The Transcendental Refutation of Determinism” (1973). John Beversluis, in a book highly critical of all of Lewis’s arguments, including the argument from reason, was the first to

use that term to designate the argument (1985).<sup>2</sup> My own efforts with respect to the argument were begun when I wrote my doctoral dissertation in defense of it entitled “Physical Causes and Rational Belief: A Problem for Materialism?” (Reppert 1989). The second chapter of my dissertation became my original essay on the Lewis–Anscombe controversy. Shortly thereafter, Alvin Plantinga published his first defense of what came to be known as the Evolutionary Argument against Naturalism, which first appeared in his book *Warrant and Proper Function* (1993) and was developed in more detail in *Warranted Christian Belief* (2000). In 1999, William Hasker published a chapter-long defense of the argument entitled “Why the Physical Isn’t Closed,” in his book *The Emergent Self* (1999, pp. 58–80). I returned to the defense of the argument starting in 1999 with an exchange in *Philo* that spilled over into *Philosophia Christi*. (Reppert 1999, 2000, 2001, 2003b,c). Then my book *C. S. Lewis’s Dangerous Idea: In Defense of the Argument from Reason*, was published in 2003, and I have engaged in further development and discussion of the argument since (Reppert 2007). In addition, other defenders of the argument have emerged, such as Darek Barefoot (2001), Angus Menuge (2004, chap. 6), and Michael Rea (2002).

## Subdividing the Argument

One aspect of my own discussion of the argument that has, I think, influenced the discussion of the argument the most is my subdivision of the argument from reason into six subarguments. In examining the argument, I found that the argument focused on different elements of the reasoning process, and that one could find difficulties for naturalism at more than one step along the way.

Perhaps Lewis himself also noticed that there are different elements to the process of rational inference. Consider this description of inference, which, interestingly enough, occurs in a critique of pacifism, not in a presentation of the argument from reason:

Now any concrete train of reasoning involves three elements: Firstly, there is the reception of facts to reason about. These facts are received either from our own senses, or from the report of other minds; that is, either experience or authority supplies us with our material. But each man’s experience is so limited that the second source is the more usual; of every hundred facts upon which to reason, ninety-nine depend on authority. Secondly, there is the direct, simple act of the mind perceiving self-evident truth, as when we see that if A and B both equal C, then they equal each other. This act I call intuition. Thirdly, there is an art or skill of arranging the facts so as to yield a series of such intuitions, which linked together produce, a proof of the truth of the propositions we are considering. This in a geometrical proof each step is seen by intuition, and to fail to see it is to be not a bad geometrician but an idiot. The skill comes in arranging the material into a series of intuitable “steps”. Failure to do this does not mean idiocy, but only lack of ingenuity or invention. Failure to follow it need not mean idiocy, but either inattention or a defect of memory which forbids us to hold all the intuitions together.” (Lewis 1962, p. 34)

So Lewis isolates three steps in the reasoning process: (1) the reception of facts to think about; (2) the perception of a self-evident truth of rule that permits the inference; and (3)

2. A revised and considerably improved edition was published in 2007 (Amherst, NY: Prometheus Books).

arranging the fact to prove a conclusion. Sometimes, in developing the argument from reason, advocates point out the difficulty the naturalist has in giving an account of how it is a thought can be *about* something. This aspect of thought, which philosophers since Brentano have called *intentionality*, has often been thought to be profoundly problematic for the philosophical naturalist. The next step in the process seems problematic as well: how is that that purely natural creatures completely embedded in the space-time continuum could possibly not only know something that is true but also must be true. Our physical senses might perceive what is, but how could physical beings know what aspects of what they experienced could not be otherwise? And then, finally what happens when we arrange statements to prove a conclusion? It seems that our understanding of the propositional content of one statement has to be the deciding factor in our being able to conclude the conclusion. As Lewis asked in his revised chapter, “Even if grounds do exist, what exactly have they got to do with the actual occurrence of belief as a psychological event?” Hence, it looks as if the naturalist, in order to affirm the existence of rational inference, must accept the existence of mental causation in which the state of accepting the content of one statement causes the acceptance of the content of another statement. How mental causation can fit into a naturalistic world has been widely regarded as a problem.

In order to keep the strands of the argument straight, I divided the argument from reason into the following six subarguments:

- (1) The argument from intentionality
- (2) The argument from truth
- (3) The argument from mental causation in virtue of propositional content
- (4) The argument from the psychological relevance of logical laws
- (5) The argument from the unity of consciousness
- (6) The argument from the reliability of our rational faculties

I will analyze just three of the arguments here: the argument from conscious, propositional intentional states; the argument from mental causation; and the argument from the psychological relevance of logical laws.

### *Intentional states and rational inference*

#### **Why reduction fails**

Intentional states are at the heart of the argument from reason. In the philosophy of mind, the term “intentionality” refers to “aboutness.” Our thoughts are about other things, surely. The first thing that we notice about our mental states is that they are about certain other things. If there is to be rational inference, there has to be something to reason about.

However, intentionality is a rather complex phenomenon. Consider the following passage by Lewis:

The strength of the critic lies in the words “merely” or “nothing but. He sees all the facts but not the meaning. Quite truly, therefore, he claims to have seen all the facts. There *is* nothing else there, except the meaning. He is therefore, as regards the matter at hand, in the position of an animal. You will have noticed that most dogs cannot understand *pointing*. You point to a bit of food on the floor; the dog, instead of looking at the floor, sniffs at your finger. A finger is a finger to him, and that is all. His world is all fact and no meaning. (Lewis 1962, p. 71)

What is interesting about this passage is that although it is clear enough the dogs don't *understand* pointing, it is equally true that dogs can be very good at tracking things. There are certainly states of the dog that link up to previous positions of a fox. The dog certainly can "track" a fox, and in one important sense we can say that the dog has states that are "about" the fox. Nevertheless the dog doesn't *understand* pointing. It does not *recognize* the "aboutness" of our mental states. It does not understand the relation between its own fox-tracking activities and the fox.

So we might distinguish between simple representation on the one hand, with representation that is understood by the agent, what I will call *understood representation*. Clearly, the latter type of intentionality is necessary for the kind of rational inference employed by the natural sciences. We have to know what we mean when we think, if we are to infer one claim from another. Consider the following joke syllogism, invented by a freshman student at the University of Illinois years ago.

1. Going to class is pointless.
2. An unsharpened pencil is pointless.
3. Therefore, going to class is an unsharpened pencil.

Recognizing that this is not a good argument is a matter of seeing that the meaning of the term "pointless" does not remain invariant between the first and second premises. As a recent US President once observed, even the meaning of the word "is" does not remain constant from context to context. No rational inference, in or out of a scientific context, could occur if we never know what we mean when we use words.

But there is another characteristic of intentional states that is critical to their use in rational inference, and that is states of mind that are about other things are formulated together to provide us with a state with propositional content. This is a further development, which results in agents who have beliefs, desires, and other propositional attitudes. If we have propositional attitudes, not only do we understand what our thoughts are about but we also are able to formulate those thoughts in a sentential format. Hence, we might want to introduce the concept of *propositionally understood representation* as another essential feature of rational inference.

Lewis wrote this in his essay "De Futilitate":

We are compelled to admit between the thoughts of a terrestrial astronomer and the behaviour of matter several light-years away that particular relation which we call truth. But this relation has no meaning at all if we try to make it exist between the matter of the star and the astronomer's brain, considered as a lump of matter. The brain may be in all sorts of relations to the star no doubt: it is in a spatial relation, and a time relation, and a quantitative relation. But to talk of one bit of matter as being true about another bit of matter seems to me to be nonsense. (Lewis 1967, pp. 63–4).

Of course, materialists are going to say that it is not a bit of matter that is about another bit of matter, it is a state of the brain (along, perhaps, with a set of causally related items outside the brain) that is about something else.

In virtue of what is some physical state about some other physical state? This is the familiar worry about intentionality, a worry made more difficult by my claim that the

kind of intentional states involved in rational inference are states in which the content is understood by the agent and put into a propositional format. Is there a set of necessary and sufficient conditions which are physical in the sense in which we are understanding it here, and which jointly entail the conclusion that agent A is in the state of believing, or doubting, or desiring, or fearing, the proposition P is true? Reductive analyses of mind hope to provide this kind of account of mental states.

When we consider material entities that exhibit intentionality, we see that they do not have their intentional content inherently, but have it relative to human interests. The marks on paper that you are reading now are just marks, unless they are related to a set of users who interpret it as such. In other words, it possesses a “derived intentionality” as opposed to an “original intentionality.” As Feser points out:

More to the point, brain processes, composed as they are of meaningless chemical components, seem as inherently devoid of intentionality as soundwaves or ink marks. Any intentionality they would also have to be derived from something else. But if anything physical would be devoid of intrinsic intentionality, whatever does have intrinsic intentionality would thereby have to be *non*-physical. Since the mind is the source of the intentionality of physical entities like sentences and pictures, and doesn't get its intentionality from anything else (there's no one “using” our minds to convey meaning) it seems to follow that the mind has intrinsic intentionality, and thus is non-physical. (Feser 2005, p. 136)

For example, clearly, the relationship between brain states and states of affairs cannot be a matter of resemblance. If what I perceive is a pine tree, then what I see is green, but there is nothing green in the gray matter of the brain that corresponds to the green tree in the world. So there must be something that connects the brain states to the mental states. But what could that be?

James Ross, in his essay “Immaterial Aspects of Thought”, presents an argument against a physicalist account of propositional content that I will call the argument from determinate content. He writes:

Some thinking (judgment) is determinate in the way no physical process can be. Consequently, such thinking cannot be a (wholly) physical process. If all thinking, all judgment, is determinate in that way, no physical process can be the (the whole of) any judgment at all. Furthermore, “functions” among physical states cannot be determinate enough to be such judgments, either. Hence some judgments can be neither wholly physical processes nor wholly functions among physical processes. (Ross 1992)

Yet, he maintains, we cannot deny that we perform determinate mental operations. He writes:

I propose now, with some simple cases, to reinforce the perhaps already obvious point that pure function has to be wholly realized in the single case, and cannot consist in the array of “inputs and outputs” for a certain kind of thinking. Does anyone count that we can actually square numbers? “4 times 4 is sixteen”; a definite form ( $N \times N = N^2$ ) is “squaring” for all relevant cases, whether or not we are able to process the digits, or talk long enough to give the answer. To be squaring, I have to be doing some thing that works for all the cases, something for which any relevant case can be substituted without change in what I am doing, but only in which thing is done. (Ross 1992)

I should add that if we do not literally add, subtract, divide, multiply, square numbers, and take their square roots, not to mention perform all the complicated mathematical operations involved in, say, Einstein's theory of relativity, then physicalism, which not only says that reality is physical but that physics, at least approximately, gets it right, is up the creek without a paddle.

Ross's argument can be formalized as follows.

- 1 Some mental states have determinate content. In particular, the states involved in adding, subtracting, multiplying, dividing, squaring numbers, and taking their square roots are determinate with respect to their intentional content.
- 2 Physical states are indeterminate with respect to intentional content. Any physical state is logically compatible with the existence of a multiplicity of propositionally defined intentional states, or even with the absence of propositionally defined intentional states entirely.
- 3 Therefore, the mental states involved in mathematical operations are not and cannot be identical to physical states.

Some naturalistic theories have been developed to provide a physicalist account of intentionality. Feser delineates four types of theories of this nature: conceptual role theories, causal theories, biological theories, and instrumentalist theories.

Conceptual role theories explicate intentional states in terms of their conceptual roles, that is, in relation to other intentional states. Of course, this does not explain why there is a network of intentional states in the first place.

A more popular approach to coming up with a naturalistic account of intentionality is causal theories of intentionality. These appeal to the causal relations that intentional states stand to items in the external world. Thus, if I believe that there is a computer monitor in front of me as I type these words, there is a causal connection between the monitor and my visual cortex, which causes states of my brain to be affected by it.

However, there are some fairly obvious difficulties which must be confronted by any causal theories. First of all, how would we explain our relationship to nonexistent objects? How could we meaningfully refer to Superman if Superman does not exist? How could a cat cause us to form the belief that a dog is on the mat? This is frequently called the misrepresentation problem. These are problems that causal theorists have been frequently discussed in the literature, and various responses have been proposed. I will not put primary focus on these difficulties; I am merely pointing them out to develop a contrast.

Now if we are working on the level of simple representation, then perhaps some solution to the problem of misrepresentation can be generated. Let us consider, for example, the case of bee dances. Bees perform dances which "represent" the positions of flowers in a garden. The bees, based on this information, go out to the garden only to find no flowers because in the intervening time between the bees' discovery of the flowers and the time when the bees performed the dance, a child had picked all the flowers and taken them indoors. We might be able to cash out this fact of misrepresentation in causal terms: there is a normal causal relationship between the bees' dance and the location of pollinated flowers, so the bees represented flowers in that location, but the representation was incorrect, because the flowers had been picked in the meantime.

However, other kinds of misrepresentation seem more difficult to deal with at the level of simple representation. Let us consider the kind of misrepresentation that goes on in, say, a used-car dealership. Can we really imagine a bee from a competing hive “sneaking in,” giving a dance which would send the swarm of bees to a place where there are no pollinated flowers, in order to secure the real flowers for its own hive? This kind of misrepresentation seems to require that the fifth-columnist bee, like the used-car dealer, know that the dance was misleading, in other words, understand what it is that their own dance and know that it was a misrepresentation. This seems to be beyond the capabilities of bees, and requires a radically different set of abilities. Can we account for the difference between being sincerely mistaken and lying in terms of causal relationships? I rather doubt it. In order to misrepresent in the “used-car salesman” sense (i.e. to lie), one has to be in an inner state of believing that not-P is true and to assert P.

There have, certainly, been causal theories of reference that have been advanced. But these do not suggest that causal relationships alone are sufficient to fix reference. On a Kripkean view of the causal theory of reference, a name’s referent is fixed by an original act of naming (also called a “dubbing” or, by Kripke, an “initial baptism”), whereupon the name becomes a rigid designator of that object. Later uses of the name succeed in referring to the referent by being linked to that original act via a causal chain. In other words, what causation explains, according to this theory, is how references is *transmitted* once an initial act of naming, an intentional (both in the sense of being intended and in the sense of possessing “aboutness”) is performed. How such actions could be performed in the first place is not accounted for in causal terms (Kripke 1980).

When we move from simple representation to intended representation, one question I have is how any specification of causal relations can possibly entail the existence of meaning at all. Let us say a bird is hardwired to let out a certain squawk when something approximately the shape of a hawk is nearby. There is a regular causal relation between the appearance of a hawk and the occurrence of the squawk. In one sense, we can say that the squawk is about the hawk. Something could, of course, touch off the “hawk” signal and the subsequent evasive action without being a hawk. It does not mean that the bird has the ability to distinguish a hawk from various nonhawks. Expecting fire when one sees smoke is not the same as inferring fire from smoke. We say “smoke means fire,” but what this amounts to is that smoke and fire are often conjoined in experience. We quite often experience smoke before we experience fire, but it turns out upon examination of the causal relations that fire causes smoke and not vice versa. We say “smoke means fire,” but that means that smoke and fire are conjoined in our experience. The “meaning” is imposed by human understanding, not in the world as it is in itself.

As Feser writes:

Any account of such theories could give the relevant causal relations holding between a particular mental state and a particular object in the external world will require picking out a particular object in the beginning point of the causal series (call it A) and a particular end point (B) as the mental state doing the representing. . . . Nothing in the flux objectively either the determinate starting point or a particular sequence or the determinate ending point. It is we who pick certain events and count them as beginnings and endings; their status as beginnings and endings is relative certain purposes and interests of ours. (Feser 2005, p. 145)

In short, there is a difference between causing action appropriate to something being the case (causing the bees to go where the nectar is) and declaring it to be the case that the

nectar is in such-and-such place. Science is inherently declarative and requires understanding. It is, in my view, tempting, but erroneous, to attribute a declarative character to bee dances and birdsongs. Casual connections are invariably insufficient to provide determinacy of propositional content. Without determinacy of propositional content, the type of rational inference in science cannot occur.

Another theory looks to biological role or function as a basis of determining content. However, I believe that Dennett has successfully argued that biological function also leaves propositional content indeterminate. Evolutionary function is essentially fluid in nature, and to get something as determinate as propositional content out of biological function is asking too much of it. (What is *the* biological function of feathers on a bird?)

John Searle writes:

So far no attempt at naturalizing content has produced an explanation (analysis, reduction) of intentional content that is even remotely plausible. A symptom that something is radically wrong with the project is that intentional notions are inherently normative. They set standards of truth, rationality, consistency, etc., and there is no way that these standards can be intrinsic to a system consisting entirely of brute, blind, nonintentional causal relations. There is no mean [middle] component to billiard ball causation. Darwinian biological attempts at naturalizing content try to avoid this problem by appealing to what they suppose is the inherently teleological [i.e. purposeful], normative character of biological evolution. But this is a very deep mistake. There is nothing normative or teleological about Darwinian evolution. Indeed, Darwin's major contribution was precisely to remove purpose, and teleology from evolution, and substitute for it purely natural forms of selection. (Searle 1992, 50–1)

Or as Feser puts it:

Talk of purposes and functions, if taken literally, seems to presuppose intentionality; in particular it seems to presuppose the agency of an intelligence of one who design something for a particular purpose. But the aim of Darwinian evolutionary theory is to explain biological phenomena in a manner that involves no appeal to intelligent design. . . . Just as modern physics has tended to explain phenomena by carving off the subjective qualitative appearances of things and relocating them into the mind, so to did the Darwinian revolution in biology push purpose and function out of the biological realm, making them out to be mind-dependent and devoid of objective reality. (Feser 2005, p. 149)

In point of fact, the ruthless naturalist W. V. Quine has argued that the reference of our terms is indeterminate, and that there is no fact of the matter as to what our words refer to (Quine 1960, chaps. 1 and 2). However, this has a disastrous consequence on the practice of science. Only if our terms have determinate reference can we reason to conclusions. Consider once again the aforementioned argument about the unsharpened pencil. Our ability to reason logically can exist only if we are able to identify sameness of meaning. Dennett's view of the mind essentially affirms the Quinian thesis of indeterminacy, and indeed Dennett thinks that this kind of indeterminacy is a consequence of philosophical naturalism.

And why not? Here, I think, we find as powerful and direct an expression as could be of the intuition that lies behind the belief in original intentionality. This is the doctrine Ruth Millikan calls *meaning rationalism*, and it is one of the central burdens of her important book, *Language*,

*Thought, and Other Biological Categories*, to topple it from its traditional pedestal (Millikan, 1984. See also Millikan forthcoming) Something has to give. Either you must abandon meaning rationalism—the idea that you are unlike the fledgling cuckoo not only having access, but in having privileged access to your meanings—or you must abandon the naturalism that insists that you are, after all, just a product of natural selection, whose intentionality is thus derivative and hence potentially indeterminate. (Dennett 1987, p. 313)

If meanings are indeterminate then it is indeterminate what Dennett means by anything he says. No one can possibly determine whether any argument is valid or not because if, say, it is a categorical syllogism, there is no way to determine whether we have got three, four, five or six terms.

So let us have a look at Dennett's argument.

- 1 If naturalism is true, then meaning is indeterminate.
- 2 Naturalism is true.
- 3 Therefore, meaning is indeterminate.

And here is mine.

- 1 If naturalism is true, then meaning is indeterminate.
- 2 Meaning is determinate (a presupposition of reason and science).
- 3 Therefore, naturalism is false.

Perhaps, it might be suggested that the indeterminacy of meaning is benign and not such that it undermines science in the radical way in which I have described. Consider Kripke's distinction between addition and what he calls "quaddition," where addition has the form  $x + y$  but quaddition has the form  $x + y$  if  $x, y$  are less than 57, 5 otherwise (Kripke 1970). If mathematics is indeterminate between addition and quaddition, science is in trouble.

Another approach to intentionality, attributed to Dennett, regards propositional states in instrumental terms. That essentially makes all intentionality derived intentionality. But, we would have to then say, "derived from what?" If we have intentionality because we take ourselves to have intentionality, then how do we account for our the intentional state of taking ourselves to have intentionality.

There have been a number of arguments presented against the possibility of determinate beliefs and desires to physical states. Quine's argument for the indeterminacy of translation, Kripke's adapted Wittgenstein argument, Davidson's argument against psychophysical laws (Davidson 1970), and Nagel's discussions in *The Last Word* (1997) all have this implication. However, different philosophers have drawn different conclusions from the arguments for irreducibility. Since reason cannot be reduced to physical relations, materialists have to use other strategies to fit reason into a physicalist world.

### **Why propositional attitudes cannot be eliminated**

Eliminative materialism is a frequently misunderstood position according to which there are no propositional attitudes. Its primary advocates have been Paul and Patricia Churchland (1986, 1989). It would be a mistake to say, as some commentators have, that

eliminative materialism is the view that there are no mental states. Nor, at least in some significant sense, can it be said that eliminative materialists deny the existence of intentionality. What I have described earlier as simple representation will certainly not be denied by eliminative materialists. What the eliminative materialist denies is the existence of *propositional attitudes*. These would include believing a proposition, doubting a proposition, fearing that a proposition is true, and desiring that a proposition be true. So it is true that eliminative materialist claims that there are no beliefs.

To be fair, the eliminativist position is somewhat more complex than that. Eliminativism maintains that “belief” and “desire” are not mental states we are directly aware of, as “seeing red” or “feeling sick” would be, but are posits of a theory called “folk psychology.” In the history of science, “folk” theories have been succeeded by scientific theories. Sometimes the scientific theories absorb the “folk” theories in such a way that the “folk” theory is taken to be fundamentally right; just standing in need of some development by the scientific theory. In other cases, such as the move from Ptolemaic astronomy to Copernican, the succeeding theory showed the previous theory to be dead wrong, and the posits of the theory to be nonexistent. The Churchlands maintain that when neuroscience “looks under the hood” of the brain, it will not find objects in it corresponding to “belief” and “desire.” Hence, the right thing for science to do given this state of affairs is to deny the existence of beliefs and desires in much the way present-day science denies the existence of phlogiston and ether.

The self-referential rebuttal is pretty obvious. “Come on Paul, you expect me to believe that, Paul?” Or, we could even present an argument that if eliminative materialism were true, no one could possibly know that it was true.

- 1 Knowledge is justified, true, belief (plus maybe a fourth condition).
- 2 If eliminativism is true, then no one believes that eliminative materialism is true, since there are no beliefs.
- 3 Hence, if eliminativism is true, no one knows that eliminativism is true (consequence of 1 and 2).

Here the Churchlands would reply that our standard definitions of knowledge are, of course, laden with folk-psychological assumptions, and when those are overthrown and a new theory based on neuroscience is developed, a fully adequate conception of knowledge will emerge.

Now the promise of successor concepts seems to be, to many people, at best, a huge promissory note drawn on future science, and we are told very little about that the successors are actually going to look like. The successor concepts are going to have to do everything for us that we thought propositional attitudes did, except that these will be a more neurophysiologically accurate way of talking about human behavior and will not be propositional states.

Now propositional attitude psychology does a lot of work for us, in everyday life, and in science as well. Lynne Baker makes this point:

Suppose I dialed your phone number and said “Would you join us for dinner at our house on Saturday at 7:00?” You replied “yes.” On Saturday, I act in the way I should act if I believed that you were coming to dinner. But if neither of us had any beliefs, intentions, or other states attributed by “that”-clauses, it would be amazing if I actually prepared dinner for you and if you actually showed up. (Baker 1987, p. 130)

Consider the whole practice of political polling, which is very often able to predict the outcome of elections before they occur. Pollsters ask respondents who they intend to vote for, or who they believe is best equipped to deal with health care or terrorism.

What is most critical, however, is that if science is what every naturalist I know says that it is – a rational method for discovering the truth – then it we have to be able to know the precise content of the terms and concepts we are using. This is especially true in the area of mathematical reasoning, which is at the heart of physics. We have to be adding, not quadding. The definite integral has to be definite if it is to do the job assigned to it. There has to be some state of the person that recognizes the mathematical content of, say, Maxwell's equations (which to me is the propositional attitude of understanding that  $p$ ), and if there has to be such a state, why should we not call this a propositional attitude.

It seems to me that there is an introspectively accessible state of knowing what one means when one says something. Now it may be that the full and complete content of what we know when we say it is not known to us. For example, I can say "I want a glass of water" without having any idea of the exact chemical composition of water. But there has to be an internally accessible content of the term "water" which will allow me to recognize whether I have been given a glass of water or a glass of coke. Of course there can be errors here, if it turns out that "What he thought was  $H_2O$  was  $H_2SO_4$ ." But one might be tempted to think that sulfuric acid was water, but it would be unlikely to be tempted by the likelihood that Coca-Cola is water, because Coke does not look at all like water, but sulfuric acid sort of does. All of which suggests to me that we do have internally understood concepts of what we mean by words, and if we did not we would not be able to get through life. I do not see how you can accept the existence of internally understood concepts of what we mean by words without also accepting propositional attitudes. I also fail to see the possibility that further brain-mapping is going to change this situation. This seems to me to be an insuperable difficulty for eliminative materialism.

### Intentionality and the supervenience strategy

Another very popular view, which has even been accepted by some Christians, is a nonreductive materialist position. On this view, intentional states are not eliminated, they are not reducible to physical states, they are, however, supervenient upon physical states. Mental states are not identical to physical states, but given the state of the physical, there is only one way the mental can be.

Of course, earlier I indicated that supervenience of all non-physical states on physical states is part of what it takes for a worldview to be naturalistic. However, if mental states can be reductively analyzed in terms of physical states, then the supervenience is simply obvious. A difference in B requires a difference in A because, in the final analysis, Bs just *are* As. Again, if the B-states are eliminated from the ontology, then we do not have to worry about a difference in B that is not guaranteed by a difference in A. However, for many, perhaps most, philosophers who believe in a broadly materialist worldview, the reductionist and eliminativist positions are both implausible. For these philosophers, the supervenience relation has a job to do, it explains how it is possible for everything to be in the final analysis physical while at the same time maintaining the irreducibility and the autonomy of the mental realm.

Philosophers often distinguish between weak supervenience and strong supervenience. According to weak supervenience, B-properties weakly supervene on A-properties if and

only if things that are alike in their A-properties are always alike in their B-properties. What this establishes is a constant conjunction between A-properties and B-properties. It does not really show that there is anything about the A-properties that guarantees that the B-properties will always be the same. Nevertheless, we must remember what caused problems for reductionist accounts of mental states. The physical, I maintained, is incurably indeterminate with respect to propositional states. Whatever story we tell at the physical level is compatible with a multiplicity of stories at the mental level. This kind of constant conjunction claim, however, explains little. There is, for example, a constant conjunction between increases in the homicide rate in New York City and increases in the rate of ice cream consumption. We could say that the homicide rate supervenes on the rate of ice cream consumption, but we will have explained nothing. We will not have shown that ice cream consumption is responsible for homicides, or vice versa, or whether these are just two unrelated effects of a common cause (an increase in the city's temperatures) (Stump 2006, p. 67).

I should add that a good deal of confusion in the discussion of neuroscientific discoveries and their relation to the philosophy of mind often occurs at this point. What neuroscience is often able to do is provide correlations between certain mental states and activity in certain parts of the brain. These are often taken as proof of materialism, but there is no good reason why dualists should not expect these correlations to exist. Further, it must be emphasized that correlation between mental states and physical states is not the same as identification of mental states with physical states.

Strong supervenience is the claim that B-properties strongly supervene on A-properties just in case things that are alike in A-properties must be alike in B-properties. On this view, the supervenience is not just a brute conjunction; it is necessarily so. However, as an attempt to explain anything, this seems inadequate as well. Religious explanations are often taken to task as being God-of-the-gaps explanations, this just seem to me to be a necessity-of-the-gaps explanation. "Why, if Jones's beliefs could be five or six different ways given the physical, or perhaps, given the physical, Jones could be a zombie with no beliefs at all, does Jones have the beliefs he has?" If the answer is "Well, there is this strong supervenience relationship that exists between the physical and the mental, so it is necessary, it looks as if we are taken no closer to an explanation as to why Jones has the beliefs he has.

Why does the supervenience relation exist, if it does? It is pure dumb luck? Is it a Leibnizian preestablished harmony set up before the foundation of the world by God? (This might not be naturalistically acceptable.) Presumably, it is not a physical relation, so why does it exist? Unless there is something about the physical that guarantees that the mental be only one way, the supervenience relation needs to be explained. There is what James Stump calls a "classic reflexivity problem" for the supervenience theorist. For supervenience theory, everything is either physical, or supervenes on the physical (Stump 2006, p. 70). So, the supervenience relation is going to have to be either physical or supervene on the physical, if supervenient physicalism is true. But does it. Stump summarizes an argument originally presented by Lynch and Glasgow to contend that the supervenience relation itself cannot be admitted into the supervenient materialism's ontology, which I have altered slightly for the sake of congruence with previous discussion:

- 1 For physicalists, all facts must be materialistically acceptable. That is, they are facts about physical things, or about things which are ontologically distinct from the physical, but strongly supervene on the physical.

- 2 There must be some fact – the explanation – in virtue of which B-properties supervene on A-properties; call the S-facts. What kind of facts are S-facts? There are two options for materialistically respectable facts:
- (a) They themselves could supervene on A-properties. But then there is an infinite regress problem, for now we have to explain this new supervenience relations, which in turn needs to be explained, and so on *ad infinitum*. So this is no good.
  - (b) Or, the S-facts could not just be further A-properties, that is, facts about the physical entity. But then these facts do not bridge the explanatory gap between the B-facts and the A-facts. (Stump 2006)

Perhaps the supervenience theorist can simply accept the supervenience relation as an unexplained brute fact. However, as J. P. Moreland argues, this is also deeply problematic for the supervenience theorist: First, he highlights the claim made by supervenience theorist Terence Horgan that in a broadly materialist the truths of supervenience must be explainable rather than *sui generis*. As Horgan points out, if there are going to be any brute unexplainable givens in a materialist universe it must be the the physical facts themselves, not some fact concerning interlevel supervenience (Horgan 1994). Second, the truth of supervenience does not look like something science could possibly have discovered, and so to accept supervenience as a brute fact would be to accept the idea that there are truths about the world that can be figured out by philosophical, rather than scientific means, and this is anathema to most contemporary naturalists (Moreland 1988). Also, this position begs the question against people such as Swinburne and Robert Adams, who maintain that the supervenience of the mind stands in need of a theistic explanation (Moreland 1988).

Second, debate about just what kind of supervenience holds between physical and mental states is not a scientific question, and cannot be settle by scientific theorizing. Further, supervenience theory involves terms and concepts that are not the terms and concepts of natural science. As Moreland puts it:

Naturalists criticize Cartesian dualism and its problem of interaction between radically different sorts of entities. In my view, the dualist has the resources to answer this problem because of her commitment to entities, relations, and causation that go beyond those in the physical sciences. But the same cannot be said for naturalism, and what is sauce for the goose is sauce for the gander. Naturalists have the very same kind of problem that they claim as a difficulty for the Cartesian. And given the philosophical constraints that follow from accepting the naturalist epistemology, etiology, and ontology, it is more difficult to see how a naturalist could accept mentaphysical supervenience than it is to understand how a Cartesian without those constraints could accept mental/physical interaction. (Moreland 1988)

Intentionality is more than just a puzzle for naturalism, it is a deep and profound problem distinct from, and as serious as, the “hard problem” of consciousness. Reduction of understood intentional states and propositional intentional states seems to be inherently impossible. Elimination of those states eliminates states essential to the operation of the natural sciences on which the credibility of naturalism is founded. Nonpropositional successors to propositional attitudes cannot do the job assigned to them. Supervenient materialism commits the materialist to a materialistically unacceptable relation between the physical and the mental and, as we shall see, presents serious problems in accounting for mental causation.

Theories of the universe that make the mental basic fact of reality, such as theism, pantheism, or idealism, do not have the problem of unacceptably terminating explanatory chains were mental states. Thus the problem of intentionality provides one good reason for preferring a broadly mentalistic world-view to a broadly materialist world-view.

Angus Menuge suggests the following argument in support of the claim that our intentionality is the result of a prior intentionality:

- 1 If something has a purpose, then it is designed.
- 2 Intentionality has the purpose of guiding behavior.
- 3 So intentionality is designed. (1 and 2)
- 4 But clearly, our intentionality was not designed by us, although it does enable us to convey our own designs.
- 5 Thus, our intentionality is the result of prior design. (3 and 4)
- 6 But . . . if something is designed, then it is the product of intentionality.
- 7 So our intentionality is the product of prior intentionality. (Menuge 2004, p. 82)

If this argument is correct, then intentionality can be grounds for thinking that our intentionality is the product of a prior intentionality.

### **Mystery and materialism**

In his book *God and the Reach of Reason*, Erik Wielenberg attempts to respond to Lewis's argument from reason, using a parallel with some Christian responses to the argument from evil. In response to the argument from evil, Christian philosophers have sometimes attempted to produce theodicies which explain God's reason for permitting various of the world's evils. Other Christians, however, have argued that our inability to explain this, that, or the other instance of evil in suffering is not the end of the world for theists. We are, after all, human beings with limited understanding, and it would be surprising if God were to exist and we could understand God's ways well enough to know why some particular instance of suffering was permitted. In the same way, the fact that no analysis of intentional states in physical terms need not be fatal for materialism because it could be that our brains are simply not well suited to understand the connections between the mental and the physical. If we cannot figure out how the mental could possibly be, in the last analysis, physical, that need not be because the mental is really nonphysical, it could be simply that we have trouble solving philosophical problems. The response he gives to the argument from reason is very much akin to the "mysterian" view in the philosophy of consciousness put forward by Colin McGinn (Wielenberg 2007).

In response, I would begin by saying that as I have been presenting the argument from intentionality, it does not seem to rest on anything being mysterious, it has rested on clearly reflecting on what mental states are in certain key cases, namely that they must have determinate mental content in order to do their jobs, and that physical states, by their very nature, are indeterminate with respect to their intentional content. Mark Twain once said, "It isn't the parts of the Bible that I don't understand that trouble me, it's the parts that I do." Similarly, in considering physicalism, it is my understanding of physical states and mental states that leads me to the conclusion that any attempt to bring the sorts of mental states involved in rational inference into a physicalistic universe are going to involve confusion and the fudging over of critical distinctions.

Further, responding to the argument from evil in the terms delineated earlier, it does seem to me that the theist is engaging in a damage control project rather than a project that actually refutes the argument from evil. If an atheistic worldview can come up with an explanation for the suffering in the world that makes more sense than theism can possibly offer, then it seems to me that the argument from evil still counts in favor of atheism. Some theists are prepared to admit that the existence of suffering counts against theism, but just think that there is better reason to be a theist nonetheless. Of course, it would be another matter if the atheists' explanation for suffering could be shown to be fundamentally inadequate. If that were the case, then the force of the atheistic argument could be blunted completely. On my view, we have to consider the fact that on a broadly materialist worldview, the existence of qualia such as pain, as well as the existence of a moral standard by which to judge something to be evil, are both problematic, so I am not fully convinced that the argument from evil really points to an explanatory advantage for atheism. However, it may be that it does, in which case the explanatory disadvantage for theism need not be fatal.

Everytime I have presented the argument from reason, I have put it forward as a factor that should count in favor of theism, but not necessarily decisively. In evaluating particular arguments, it is important not to get "tunnel vision" and think that the argument now being considered is the only consideration for or against theism. So I can easily imagine someone saying, "Yes, reason is tough for atheists to explain, but theists have worse problems, so I am not going to go there." In fact, I introduced the comparison between the argument from reason and the argument from evil in my book's penultimate paragraph. I wrote:

However, I do contend that the arguments from reason do provide some substantial reasons for preferring theism to naturalism. The "problem of reason" is a huge problem for naturalism, as serious or, I would say, more serious, than the problem of evil is for theists. But while theists have expended considerable effort in confronting the problem of evil, the problem of reason has not as yet been acknowledged as a serious problem for naturalism. (Reppert 2003a, p. 128)

Now, once again, the force of the argument from reason could be blunted if it could be shown that whatever the weaknesses of the various materialistic accounts of reason, a non-naturalistic account of reason would have to be, by its very nature, inadequate. However, theism does offer a way, whereby we can say that we need not be saddled with the problem of how reason might arise in a universe that lacked it to begin with, or how rational states can supervene on lower-level states that lack rationality entirely. If we ask "Why does reason exist at all?" the theist can answer "It is on the ground floor of reality. Its existence is more fundamental to the ultimate causes of the universe than the existence of matter itself.

Others have argued that whatever theistic explanations are always inadequate explanations, and that we are better off saying "I don't know" than attributing anything to God. That is the force of what I call the Inadequacy objection, and it is an argument that I will take up later in this chapter.

### *The argument from mental causation*

#### **Hasker's counterfactual argument from mental causation**

The third argument, and a very significant one, is the argument from mental causation. Recall for a moment Lewis's discussion of how rationally inferred beliefs must be caused.

He says, “One thought can cause another not by being, but by being seen to be, a ground for it” (Lewis 1978). So besides the existence of facts to think about, and our capacity to perceive a self-evident rule that permits the inference (which we will get to when we talk about logical laws), we also must be able to arrange these facts to prove a conclusion, and it must be possible for new beliefs to be brought into existence by this kind of a process of reasoning. To those who, like Anscombe, are inclined to think that reasons-explanations are always noncausal in nature, I would like to ask how we are to understand words like “convince” or “persuade”? Presumably, rational convincing and persuading is the goal of argumentative discourse, but if reasons are in no sense causal in nature, this is impossible.

Suppose we were to answer Lewis’s question “Even if grounds do exist, what have they got to do with the actual occurrence of belief as a psychological event” by saying, “Nothing. Beliefs (if they exist at all given naturalism – of course this is denied by eliminativists) are strictly epiphenomenal. It seems to us that we hold beliefs for good reasons, but if we examine how these beliefs are produced and sustained, we find that reasons have nothing to do with it. We think they do, but this is just one more example of the ‘user illusion.’” If we were to say that, it seems to me that the possibility of science as an operation would have to be called into question. As Jerry Fodor once put it:

If it isn’t literally true that my wanting is causally responsible for my reaching, and my itching is causally responsible for my scratching, and my believing is causally responsible for my saying . . . if none of that is literally true, then practically everything I believe about anything is false and it’s the end of the world. (Hasker 1999, p. 69–75)

Further, we have to look at just what is involved when we talk about causal transactions. Only some properties of an object are casually relevant to the production of the effect. For example, if I take the baseball that Luis Gonzalez hit to win the 2001 World Series for the Arizona Diamondbacks over the New York Yankees, and throw it at the window, it would break the window only in virtue of the force it applied to the window. It does not break the window in virtue of its having been the ball Gonzo hit against Mariano Rivera. When Lewis says “One thought can cause another not by being, but by being seen to be, a ground for it,” obviously not only must one mental event cause another mental event, but it must do so in virtue of its propositional content and, in fact, in virtue of the kind of logical relationships between the relevant propositions.

There are a couple of arguments that have been developed to show that given the causal closure of the physical, rational inference is impossible. In William Hasker’s third chapter of *The Emergent Self*, entitled “Why the Physical Isn’t Closed,” Hasker uses a counterfactual argument to show that the kinds of counterfactuals involved in mental causation will turn out false if the physical is closed (Hasker 1999, pp. 69–75). Let us just take what it is to be persuaded by the evidence for some claim. Let us say that Marcia believes that O. J. Simpson is guilty of murder on the basis of the blood evidence, along with other considerations. What this would have to mean is that if there were no evidence in favor of O. J.’s guilt, she would not think him guilty. If it turns out she was hardwired or sufficiently prejudiced to think of African-American former football stars as guilty of murder regardless of the state of the evidence, this would make your claim to believe on the basis of evidence false. So for someone to claim to believe that O. J. is guilty (or innocent) on the basis of evidence, the following conditionals must be true.

- 1 If strong evidence supporting O. J.'s guilt exists, then Marcia would believe that O. J. is guilty.
- 2 If strong evidence supporting O. J.'s innocence exists, then Marcia would believe that O. J. is innocent.

If physicalism is true, then sufficient physical causes for one's forming the belief that O. J. is guilty must exist if you are to believe that O. J. is guilty. Thus, if the physical conditions exist for you to form the belief that O. J. is guilty, then you will form that belief, and if they do not, you will not. Yet those physical conditions contain nothing about blood evidence or any other kind of evidence. After all, could be a similar world in which the evidence-thoughts do not occur, but the belief is formed anyway. As Hasker explains:

Following John Pollock, we assume that a counterfactual conditional is true if and only if the consequent is true in all those worlds minimally changed from the actual world in which the antecedent is true. Would a world minimally changed from the actual world in which she doesn't see that her belief is supported by good reasons, be one in which she would not accept the belief? No doubt there are a number of different ways in which the world could be changed just enough to satisfy the antecedent of the conditional; in some of these she accepts the belief while in others she doesn't. And there is no basis for saying that those in which she doesn't accept it are less changed from the actual world in which she does, or *vice versa*. (Hasker 1999, p. 70)

I am assuming here, on the basis of my discussion of intentionality earlier, that mental states are not type-reducible to physical states. However, let us suppose that the mental state supervenes on the physical state. It is true, that, according to strong supervenience, the mental state must exist if the physical state does. Still, we can imagine the truths of supervenience being different from what they are, and if those truths of supervenience are different, the belief is formed in the absence of evidence. Further, if the universe is fundamentally physical, that means that the physical facts are the most fundamental facts in existence, more fundamental, surely, than the truths of supervenience.

Hasker considers the possibility that the truths of supervenience are metaphysically necessary truths. If the laws governing objects in the world are metaphysically necessary truths, then we can take a world of objects similar to this world, except with regard to the psychophysical connections that obtain in this world. Such a world would be a zombie-world, in which the basic properties of matter would be zombie-protons, zombie-neutrons, zombie-electrons, zombie-quarks, or zombie-strings. In such a world, again, the appropriate beliefs could be formed in the absence of the relevant evidence. The mental states are irrelevant to physical events, which have physical causes and only physical causes, according to materialism, and whatever mental states might exist, exist in virtue of the physical states (Hasker 1999, p. 71).

Another important point is that very often, naturalists appeal to evolution in order to explain the existence of reason. The idea is that surely evolution would select for good reasoning methods over bad reasoning methods. However, this will work only if the mental states involved in rational inferences are causally effective. As Hasker says:

If we accept the physicalist premises of causal closure and the supervenience of the mental, Darwinist epistemology flunks out completely: it has no ability whatever to explain how any of our conscious mental states have even the most tenuous hold on objective reality. (Hasker 1999, p. 76)

On top of this, I should revert to what I said earlier, that the claim that given the physical, the mental necessarily supervenes seems to me just plain ungrounded. Given the physical, why does there have to be just these mental states? Why do there have to be intentional states at all. Appeal to supervenience in this context is just a mask for a lack of understanding, it seems to me.

### **Barefoot and the four corollary argument**

Darek Barefoot, in response to some criticisms of my book by Richard Carrier, has developed a version of the argument from mental causation based on two corollaries of naturalism and two corollaries of reason. The corollaries of naturalism must be true if naturalism is true, the two corollaries of reason must be true if there is to be the sort of rational inference we find in the sciences.

The following are the two corollaries of naturalism:

- 1 To the extent that changes in natural systems have causes, those causes are potentially available to the senses either directly or by scientific instruments.
- 2 Every belief accompanies a natural (physical) state, and the properties of a belief are wholly dependent upon and determined by the natural state that it accompanies.

The following are the two corollaries of reason:

- 1 Reason includes, although it is not limited to, the acceptance of a belief due to the accurate, conscious perception that true premises logically entail it.
- 2 A belief may be considered to be held rationally only to the extent that what are consciously perceived by the holder to be the reasons for his accepting the belief are in fact the reasons for his doing so. (Barefoot 2007)

It should be noted that the corollaries of reason need not be true of all beliefs. We might believe some things noninferentially because we perceive the objects in question. Thus, perhaps my belief that my glasses are on the table does not require me to draw any inferences in order to be justified. If I have a hunch that Smith will not betray my secret if I tell it to him, this may not have to be due to some traceable reasoning process. However, if we deny that there is rational inference of the kind that I have been talking about in this chapter, which conforms to the two cited corollaries of reason, then the heart of science is ripped out. If physics is a true source of knowledge about the physical, then some people have to be able to draw precise mathematical inferences.

What lies at the heart of naturalism is the idea that we can apply the methods of science, of observation and measurement to every type of reality. In the last analysis, everything is at least potentially available to the senses and we can analyze it in scientific terms. If there are features of reality that we can only reach through introspection, which in principle someone could not figure out looking at it from the outside, then something has escaped the nets of naturalistic analysis.

If a broadly materialist worldview is true, then only physical states can have any causal efficacy. If could provide necessary and sufficient conditions for propositional states by specifying physical states, then we would be able to bring propositional contents into the web of causal interaction in a naturalistic world. However, the trouble is we cannot do that.

The following is an adaptation of an argument Barefoot provides against the reconcilability of the corollaries of reason with the corollaries of naturalism.

- 1 Only the physical properties of representations can generate functional states in computational systems.
- 2 Propositional contents cannot be identified with the physical properties and their representations.
- 3 Therefore, propositional contents cannot generate functional states in computational systems.
- 4 Propositional contents generate some beliefs in some minds.
- 5 Therefore, some beliefs in minds cannot be identified with, or wholly dependent upon, functional states in computational systems.

### **The argument from indeterminate causes**

I would put the argument from physicalism to epiphenomenalism in the following way, using the discussion of the indeterminacy of the physical discussed earlier as a basis.

- 1 Physical states are indeterminate with respect to intentional content.
- 2 If a broadly materialist worldview is correct, then the physical is causally closed. Nothing over and above the physical state of the world can be responsible for a subsequent physical or mental state.
- 3 Therefore, if there are mental states, and those mental states have determinate mental content, then that determinate mental content is causally irrelevant to the future course of nature.

I conclude, therefore, that the problem of mental causation is still a serious difficulty for materialism, and failure to solve it calls into question the very scientific enterprise which alone provides the foundations for naturalism. We still have not got a good materialist answer to the question “Even if grounds do exist, what exactly have they got to do with belief as a psychological event,” and, to be honest, I do not think we are going to ever get one.

### *The argument from the psychological relevance of logical laws*

It is not enough that one mental event cause another mental event in virtue of its propositional content. Someone who engages in rational inference must recognize the correctness of the principle of sound reasoning, which one applies to one’s inference. *Modus ponens* works, affirming the consequent does not. Our inferences are supposed to be governed by the rules of reasoning we recognize to be correct. However, can these rules of inference ever really govern our reasoning processes? According to physicalism, all of our reasoning processes are the inevitable result of a physical substrate that is not governed by reasons.

So we might ask this question: “Which laws govern the activity we call rational inference?” We might stipulate, for the purposes of this discussion, the idea that laws of physics are accounts of the powers and liabilities of the objects in question. If the materialist claim

that laws other than the laws of physics apply to the assemblage of particles we call human beings, then those particles are not what (mechanistic) physics says they are, and we have admitted a fundamental explanatory dualism. If however, the laws are the laws of physics, then there are no powers and liabilities that cannot be predicted from the physical level. If this is so there can be a sort of emergence, in that the basic laws governing a sleeping pill will not mention that the pills tend to put you to sleep. Nevertheless, the pill's soporific effectiveness can be fully and completely analyzed in terms of its physical powers and liability. If this is so, then we will be rational if and only if the physical configurations of matter guarantee that we are physical, and in the last analysis, the laws of logic do not govern our intellectual conduct.

This is especially difficult for the naturalist if you are inclined to think, as I am, that laws of logic pick out ways of thinking that are correct regardless of place, time, or even possible world. Not only are there no true logical contradictions in Arizona, in Texas, in Georgia, in Iraq, or even in Southern California, there are none on the moon or even in other possible worlds. How could truths that are not local to any space and time affect the brains of those who are in space and time and whose thoughts are under the complete causal influence of a mechanistic physical order. We can certainly imagine, for example, a possible world in which the laws of physics are different from the way they are in the actual world. We can imagine, for example, that instead of living in a universe in which dead people tend to stay dead, we find them rising out of their graves on a regular basis on the third day after they are buried. Nevertheless, we cannot imagine a world in which, once we know which cat and which mat, the cat can be both on the mat and not on the mat. Now can we imagine there being a world in which  $2 + 2$  is 5 and not 4? I think not.

It is one thing to suggest that brains might be able to "track" states of affairs in the physical world. It is another thing to suggest that a physical system can be aware, not only that something is the case but also that it must be the case; that not only is it the case but also that it could not fail to be the case. Brain states stand in physical relations to the rest of the world, and are related to that world through cause and effect, responding to changes in the world around us. How can these brain states be knowings of what must be true in all possible worlds?

Arguing that such knowledge is trivial because it merely constitutes the "relations of ideas" and does not tell anything about the world outside our minds seems to me to be an inadequate response. If, for example, the laws of logic are about the relations of ideas, then not only are they about ideas that I have thought already but also they are true of thoughts I have not even had yet. If contradictions cannot be true because this is how my ideas relate to one another, and it is a contingent fact that my ideas relate to one another in this way, then it is impossible to say that they will not relate differently tomorrow.

Richard Carrier responds somewhat differently. He says:

For logical laws are just like physical laws, because physical laws describe the way the universe works, and logical laws describe the way reason works—or, to avoid begging the question, logical laws describe the way a truth-finding machine works, in the very same way that the laws of aerodynamics describe the way a flying-machine works, or the laws of ballistics describe the way guns shoot their targets. The only difference between logical laws and physical laws is that the fact that physical laws describe physics and logical laws describe logic. But that is a difference both trivial and obvious. (Carrier 2004)

What this amounts to, it seems to me, is a denial of the absolute necessity of logic. If the laws of logic just tell us how truth-finding machines work, then if the world were different a truth-finding machine would work differently. I would insist on a critical distinction between the truths of mathematics, which are true regardless of whether anybody thinks them or not, and laws governing how either a person or a computer ought to perform computations. I would ask, "What is it about reality that makes one set of computations correct and another set of computations incorrect?"

If we are completely physical systems, we will "follow" the laws of logic exactly when the physics results in logically correct thought, and we will violate the laws of logic, contradict ourselves, and commit fallacies when the physics governing our brain has us doing that. The laws of logic, or rather, the principles of sound reasoning, are inoperative when it comes to the formation of our beliefs. Ground-and-consequent relationships can, on this view, have nothing to do with what beliefs are caused.

## Five Popular Objections

### *The argument from computers*

Some people think it is easy to refute any argument from reason just by appealing to the existence of computers. Computers, according to the objection, reason, they also are undeniably physical system, but they are also rational. So whatever incompatibility there might be between mechanism and reason must be illusory. However, in the case of computers, the compatibility is the result of mental states in the background that deliberately create this compatibility. Thus, the chess computer Deep Blue was able to defeat the world champion Garry Kasparov in their 1997 chess match. However, Deep Blue's ability to defeat Kasparov was not the exclusive result of physical causation, unless the people on the programming team (such as Grandmaster Joel Benjamin) are entirely physical results of physical causation. To assume that, however, is to beg the question against the advocate of the argument from reason. As Hasker points out:

Computers function as they do because they have been constructed by human beings endowed with rational insight. A computer, in other words, is merely an extension of the rationality of its designers and users, it is no more an independent source of rational insight than a television set is an independent source of news and entertainment. (Hasker 1983, p. 49)

The argument from reason says that reason cannot emerge from a closed, mechanistic system. The computer is, narrowly speaking, a mechanistic system, and it does "follow" rational rules. But not only was the computer made by humans, the framework of meaning that makes the computer's actions intelligible is supplied by humans. As a set of physical events, the actions of a computer are just as subject as anything else to the indeterminacy of the physical. If a computer plays the move Rf6, and we see it on the screen, it is our perception and understanding that gives that move a definite meaning. In fact, the move has no meaning to the computer itself, it only means something to persons playing and watching the game. Suppose we lived in a world without chess, and two computers were to magically materialize in the middle of the Gobi desert and go through all the physical states that the computers went through the last time Fritz played Shredder. If that were

true they would not be playing a chess game at all, since there would be no humans around to impose the context that made those physical processes a chess game and not something else. Hence, I think that we can safely regard the computer objection as a red herring.

### *The problem of interaction*

One of the most popular arguments for materialism is the argument that dualism saddles the dualist with the problem of interaction: the problem of seeing how something non-physical can interact with something physical. William Lycan, for example, provides four arguments against mind–body dualism (Lycan 2002, p. 168; quoted in Parsons 2003, p. 72).

First, Lycan argues that Cartesian minds do not fit in with our otherwise physical and scientific picture of the world. However, I have been arguing that a truly scientific understanding of the world has to include scientists who engage in mathematical and scientific reasoning, and that we need something nonphysical to explain the existence of scientists. Absent an effective reply to my arguments on this score, I can maintain that my dualism, not his materialism, is the truly science-supporting worldview. Further, it is not the case that we know nothing about such a soul. We know that it is the sort of thing whose essence it is to act for reasons, possibly because it was created to do so.

Second, Lycan argues that human beings evolved over aeons through a purely physical process of natural selection and random mutation. However, it is the thrust of my argument that our minds could not be the product of “blind watchmaker” evolution, and it begs the question against my argument to insist that it does, absent a good explanation of how reason is possible in a physicalistic universe. Hence, to insist that our minds are the product of “blind watchmaker” evolution in the face of an argument that suggests otherwise is to beg the question.

Third, according to Lycan, if minds are nonspatial, how could they interact with physical objects in space? However, I did not argue that minds are nonspatial, I am just arguing that the basic explanation of their activity is rational rather than nonrational. Second, if nothing nonspatial can interact with anything spatial, then we would have an argument that a creator God is impossible. Have atheists been missing out on a good argument here? Nevertheless, where is the analysis of cause that shows that an effect in space can only have a cause in space? It certainly seems logically possible for something that is not in space to interact with something that is. The claim that it is impossible is often simply made as a bald assertion, without supporting argumentation.

Fourth, Lycan argues that a soul interacting with the body would be a violation of conservation laws. However, I do not see a problem here either because the conservation laws tell us only what will happen within a closed physical system all things being equal, and cannot tell us what will happen in something outside the physical system interferes. So once again, the argument assumes the truth of physicalism, and so begs the question.

Jaegwon Kim has asked what connects a soul with a body, so as to enable causal connections between them (Kim 2001). Now, my argument, as I have indicated earlier, does not actually contend that the soul must be nonspatial. What I have been arguing is that something must exist who can act independently of the nexus of nonrational causation so as to be determined by reasons and not physical causes. It could be in space or not in space.

If the soul is not spatial, then the body might have some identifying characteristic, unique to itself throughout its career, that the soul can identify. Or perhaps God creates

and sustains the causal interaction between the soul and the body. Another option is a Thomistic form of dualism, according to which the person is a single thing that is a combination of form (the soul) and matter (the body). On a Aristotelian–Thomistic view, there are, in the final analysis, no purely material objects, and everything is a combination of matter and form. There is also Hasker’s emergent dualism (Hasker 1999), which involves the matter having potentialities to produce a soul distinct from itself. If the soul is somehow produced by the body, then the soul should be able to identify the body that produced it. Of course, these sorts of potentialities in matter would be hard to accept within a naturalistic framework, although if theism is accepted, the antecedent probability is lessened.

I do not want to underestimate the difficulties that Kim is posing here. However, I have argued that there must be something inherently rational that is responsible for the rationality we find in the world. It seems that that can be cashed out in a variety of ways, all of which have the advantage of not requiring us to somehow identify our reason with a set of mechanistically defined, inherently nonrational states.

### *Armchair science*

Richard Carrier, in his critique of my book, accused me of doing armchair science maintaining that a materialist account of reasoning would invariably be inadequate. Science is continuously expanding our knowledge of the mind and its capabilities, and while present science may not yet have all the answers as to how the mind works, it is the height of presumption to assume that an adequate physicalist analysis of the mind will not be forthcoming. To make matters worse, my argument contains no discussion of current work in cognitive science and neuroscience (Carrier 2004).

First of all, my argument never denies that brain science can discover a great deal about how the mind works. However, we need to ask what exactly we are expecting science to discover here. Scientific analyses of cognition give us numerous correlations between mental states and brain states. As Moreland puts it:

It will do no good for the naturalist to claim that once we know more about the brain, we will be able to explain how mental states emerge in the developing brain. At best, such a so-called explanation would merely state a correlation about the fact that such emergence regularly obtains and dualists are happy with such correlation. But a correlation that answers a question is not the same thing as saying how the emergence is exemplified. (Moreland 1988, p. 52)

I have been arguing that there is a logicoconceptual chasm between the physical and the intelligible world. On my view, physical analyses, by their very nature, must perforce be compatible with a multiplicity of mental states, or with the absence of mental states entirely. Success in finding correlations will not solve this problem. Bridging the chasm is not going to simply be a matter of exploring the territory on one side of the chasm. What neuroscience is going to have to come up with is an intertheoretic reduction between the mental and the physical. However, even many naturalists are convinced that such a reduction will not be forthcoming.

Consider the frequently maintained assertion that no “ought” statement can be derived from an “is” statement. Whatever you think of this argument, it seems an inadequate response to say that this claim is guilty of armchair science, that somehow if we mapped

the brain and the rest of the physical world well enough we could figure out what moral norms are true and which are not. The kind of assertion made by normative ethics is something that we can see cannot possibly follow logically from scientific claims about the physical world, however comprehensive or sophisticated.

### *God of the gaps*

Another argument frequently advanced against virtually any piece of natural theology is the God of the gaps charge. In fact, this is one of the most popular items in the atheist playbook. We know from the history of science that many things were thought in the past to require an explanation in terms of divine agency are now known to have naturalistic explanations. Rainbows, for example, were once thought to have been put in the sky as a sign, we now know that they can be naturalistically explained in terms of light refraction. Various biological systems show a harmony between means and ends which in the past was cannon fodder for the design argument, but is now explicable in terms of random variation and natural selection. So if there is something that we think cannot be explained in physical terms, just give science some time, and they will figure it out sooner or later.

An instance where the God of the gaps objection appears strong is in the case of Newton's account of the orbits of the planets. His theory would have expected the orbits to go somewhat differently from the way they go, and so he postulated God as the one who keeps the planets in line. Laplace later developed a theory that did not require this kind of divine tinkering, and when asked about Newton's theistic theory, he said "I have no need of that hypothesis."

However, I am not sure that every argument that points to an explanatory difficulty for the naturalist can be effectively answered with a "God of the gaps" charge. Consider, for example, being at a dinner party with someone who is given a large amount of water and creates from it an equal volume of wine. Can we reasonably say that we just have a gap in our understanding. As Robert Larmer points out, our understanding of how wine is made is precisely what makes it so difficult to explain naturalistically.

What should be at issue in assessing "God of the gaps" arguments is whether they have met these conditions. Claims regarding events traditionally described as miracles and claims regarding the origin and development of life are where "God of the gaps" arguments are most commonly met. In the case of events traditionally described as miracles, it seems very evident that our increased knowledge of how natural causes operate has not made it easier, but more difficult, to explain such events naturalistically. The science underlying wine-making is considerably more advanced today than it was in first century Palestine, but our advances have made it even more difficult to explain in terms of natural causes how Jesus, without any technological aids, could, in a matter of minutes, turn water into high quality wine. Indeed, it is the difficulty of providing a naturalistic account of such events that leads many critics to deny that they ever occurred; though this looks suspiciously like begging the question in favour of naturalism. It is clear that if such events have occurred, the advance of science has made them more, rather than less, difficult to explain in terms of natural causes. Employing a "God of the gaps" argument that the occurrence of such events would constitute good evidence for supernatural intervention within the natural order seems entirely legitimate. (Larmer 2002)

Perhaps even Newton has been given a bad rap, as Plantinga points out:

Newton seems . . . to have suffered a bum rap. He suggested that God made periodic adjustments in the orbits of the planets; true enough. But he didn't propose this as a reason for believing in God; it is rather that (of course) he already believed in God, and couldn't think of any other explanation for the movements of the planets. He turned out to be wrong; he could have been right, however, and in any event he wasn't endorsing any of the characteristic ideas of God-of-the-gaps thought. (Plantinga 1997, footnote 52)

So, I would maintain that there are gaps and there are gaps. It is not just pointing to an unsolved engineering problem in nature. First of all, the categories of the mental and the physical are logically incompatible categories. You start attributing mental properties to physics and you might end up being told that you are no longer describing the physical at all. Purpose, normativity, intentionality, or aboutness, all these things are not supposed to be brought in to the physical descriptions of things, at least at the most basic level of analysis.

Let us consider the gap between the propositional content of thought and the physical description of the brain. My claim is that no matter in how much detail you describe the physical state of the brain (and the environment), the propositional content of thought will invariably be undetermined. This is not my claim or C. S. Lewis's, this argument was made by the archnaturalist W. V. Quine. As I see it, it is not a matter of getting a physical description that will work. In my view, the logicoconceptual gap is always going to be there regardless of how extensively you describe the physical. As I said earlier, bridging the chasm is not going to simply be a matter of exploring the territory on one side of the chasm.

Second, to a very large extent, the gap between the mental and the physical was caused by science in the first place. The way one got physics going in the early days of modern science was to attribute such things as colors, tastes, smells to the mind while explaining the physics of it without having to consider these things. So, for example, in reducing heat to the mean kinetic energy of gases, science "siphoned off" the feeling of warmth caused by heat to the mind, and explained heat without reference to how heat feels to us. As Swinburne put it:

There is a crucial difference between these two cases. All other integrations into a super-science, or sciences dealing with entities and properties apparently qualitatively distinct, was achieved by saying that really some of the entities and properties were not as they appeared to be; by making a distinction between the underlying (not immediately observable) entities and properties and the phenomenal properties to which they give rise. Thermodynamics was conceived with the laws of temperature exchange; and temperature was supposed to be a property inherent in an object. The felt hotness of a hot body is indeed qualitatively distinct from particle velocities and collisions. The reduction was achieved by distinguishing between the underlying cause of the hotness (the motion of the molecules) and the sensations which the motion of molecules cause in observers. The former falls naturally within the scope of statistical mechanic—for molecules are particles' the entities and properties are not of distinct kinds. But this reduction has been achieved at the price of separating off the phenomenal from its causes, and only explaining the latter. All reduction from one science to another dealing with apparently very disparate properties has been achieved by this device of denying that the apparent properties (i. e. the 'secondary qualities' of colour, heat, sound, taste, etc.) with which one science dealt belonged to the physical world at all. It siphoned them off to the world of the mental. But then, but when you come to face the problem of the sensations themselves,

you cannot do this. If you are to explain the sensations themselves, you cannot distinguish between them and their underlying causes and only explain the latter. In fact the enormous success of science in producing an integrated physico-chemistry has been achieved at the expense of separating off from the physical world colours, smells, and tastes, and regarding them as purely private sensory phenomena. *The very success of science in achieving its vast integrations in physics and chemistry is the very thing which has made apparently impossible any final success in integrating the world of mind into the world of physics.* (Swinburne 1986, p. 191, italics mine)

If Swinburne is correct here, the very thing that made reduction possible in many historic cases is going to make it impossible in the case of the mind and matter.

I conclude, therefore, that the “God of the gaps” or even a “soul of the gaps” response to the argument from reason does not work. I am not saying that we just cannot figure out right now why the mental states involved in rational inference are really physical, I am suggesting on principled grounds that a careful reflection on the nature of mind and matter will invariably reveal that there is a logical gap between them that in principle cannot be bridged without fudging categories.

### *The inadequacy objection*

This objection is also extremely popular. It claims that appealing to God or any or any other supernatural entity provides only a pseudoexplanation for the phenomena in question. So, if something cannot be explained naturalistically, it is better to simply say we do not have an explanation than to appeal to something beyond our outside of nature.

So for example, if we were to explain the existence of reason in terms of the theistic God, that would not be to explain the existence of reason at all. The only way reason could be genuinely explained would be if reason could be explained in terms of something that is without reason, something like, say, a blind evolutionary process. As Keith Parsons put it:

Creationist “explanations” do not explain. When we appeal to the inscrutable acts and incomprehensible powers of an occult being to account for mysterious phenomena, we only deepen the mystery. Like Nagel . . . I regard such “explanations” as mere markers for our ignorance, placeholders for explanation we hope someday to get. (Parsons 1999, p. 84)

However, what we are calling “supernatural” explanations are primarily intentional, teleological, or person explanations that cannot in principle be reduced to impersonal mechanistic explanations. And it is just false to say that in the absence of a further mechanistic explanation, all we have is a “placeholder.” Consider my cheering and pumping my fist when Steve Nash hits Amare Stoudemire with a alley-oop pass that results in a slam dunk for Amare against the San Antonio Spurs. The explanation that makes sense of that action on my part is that I am a fan of the Phoenix Suns who especially likes to see them beat the San Antonio Spurs. Having given that explanation, which is intentional in nature, I have not indicated whether or not there is some further explanation available in terms of neurophysiology. No doubt neurophysiology is part of the account (no dualist wants to deny that), but whatever may be involved in that further account, or even if there is no further account and the intentional explanation is all we are ever going to have, nevertheless

we do have an explanation and not just a placeholder. Indeed, a detailed analysis of my brain states would be far less explanatory in terms of what anyone wants to know about my state of mind after seeing that slam dunk than the simple intentional explanation that I gave earlier.

If, as I believe, God is a rational, personal being, surely that makes it more likely that rational creatures should arise in a world God creates because persons by nature are interested in communicating with other persons. So the probability that rational beings should emerge looks to me pretty good; the emergence of rational beings in a naturalistic universe seems very unlikely if not impossible.

While we do not know any strict laws concerning God's conduct, we certainly think we know various things regarding God's character which make some divine acts more likely than others. If God were to resurrect someone from the dead who lived in the twenty-first century, it would more likely be Mother Teresa than Adolf Hitler.

The inadequacy objection gratuitously assumes that matter is what is clearly understandable, and that "mind" is something mysterious, the very existence of which has to be explained in terms of unmysterious matter. This seems just false. According to Galen Strawson:

This is the assumption that we have a pretty good understanding of the nature of matter—of matter and space—of the physical in general. It is only relative to this assumption that the existence of consciousness in the material world seems mystifying. For what exactly is puzzling about consciousness, once we put the assumption aside? Suppose you have an experience of redness, or pain, and consider it to be just as such. There doesn't seem to be any room for anything that could be called a failure to understand what it is. (Strawson 1999, p. 13)

On the other hand, matter is described by modern physics in the most mystifying terms imaginable. The philosopher of science Bas van Fraassen writes: "Do concepts of the soul . . . baffle you? They pale beside the unimaginable otherness of closed space-times, event horizons, EPR correlations, and bootstrap models" (Churchland & Hooker 1985, p. 285).

Parsons says, "When I am told that consciousness and reasoning are due to the inscrutable and miraculous operations of occult powers wielded by an undetectable entity that exists nowhere in the physical universe, I am not enlightened." I will not comment on whether or not this description of mind/body dualism backed up by theism is an apt one, although I consider it to be actually misleading. Nonetheless, I would simply point out that to be enlightened is to discover the truth, and if this is the truth, then it is enlightening, even though it may be epistemically frustrating to someone like Parsons. Second, the "obscurantism" I am advocating may be necessary to preserve science itself, while (if I am right) a mechanistic account of mind undermines the scientific enterprise. Parsons's own theory makes Einstein's theory of relativity and Darwin's theory of evolution the result of blind physical causes. In the last analysis, whose theory is more obscurantist?

Therefore, I maintain that the inadequacy objection gratuitously assumes that the only real explanations are mechanistic explanations, and that this is evidently false. It is supposed to be part of God's nature to be rational. If we explain one thing in terms of something else, and that something else in terms of something else again, the chain of explanation will have to terminate somewhere. The theist explains the existence of rationality in the universe by appealing to the inherent rationality of God. It cannot be the case that the

materialist can actually argue that one ought never to explain anything in terms of something having such and such a nature. One cannot go on giving reductive explanations forever. If, as I have argued, we have good reason to suppose that reason cannot be built up out of nonintentional and nonteleological building blocks, then in order to preserve reason and the logical foundations of science, we have good reason to accept a nonmaterialist understanding of the universe. If my argument in this chapter is correct, then explaining reason in terms of unreason explains reason *away*, and undercuts the very reason on which the explanation is supposed to be based.

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