

## 4 God, Evil, and the Nature of Light

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According to one version of theism, which I will call “Theism” with a capital “T,” a personal God who is all powerful, all knowing, and perfectly good created the natural world. To hope that this version of theism is true is or at least should be easy, because no being could be better positioned to promote our well-being than one that is all powerful and all knowing, and no being could care more about promoting our well-being than one that is perfectly good. To actually believe, however, that Theism is true is made more difficult for some by the fact that terrestrial lives of low quality are far from rare. Countless human beings and animals suffer from intense or prolonged physical pain, by a failure to flourish either biologically or socially, by mental and physical decay in old age, and by the tragic frustration of their hearts’ desires. Are such evils strong evidence against Theism? And if they are, should we conclude that the Theistic God does not, in all likelihood, exist? Many atheists believe that the correct answer to both of these questions is “yes.” It is the job of philosophers, however, to test beliefs like this by argument, whether or not they share those beliefs. One way to do that is to construct and evaluate an “evidential argument from evil” against Theism. That is my project in this chapter. In constructing such an argument, I do not seek to convince anyone that belief in God is irrational or that God does not exist or even that the Theistic God does not exist. I’m no apologist for atheism. Argument construction and evaluation is, for me, a method of philosophical inquiry, not an attempt to persuade others to share my religious beliefs or disbeliefs.

### POISSON’S SPOT

I would like to begin by telling one of my favorite stories from the history of physics. I will be using elements of this story throughout this essay to help clarify by analogy a variety of points about my argument from evil. Now it might be objected that it is a bad idea to use a *physics*

example to try to make one's reasoning *easier* to follow. But don't worry. The physics is theoretical, but the fun is real.<sup>1</sup> The story takes place in France early in the nineteenth century. At that time, not unlike now, there was disagreement about the nature of light. The dominant theory had for some time been what is usually called the corpuscular theory of light but which I will simply call "particle-ism." According to this theory, light consists solely of particles. Isaac Newton favored this theory, which may be the main reason that it was dominant, since the available evidence at the time was rather ambiguous. The second-most-popular theory at the time was what I will call "wave-ism." According to this theory, light consists solely of waves.

In the year 1818, the French Academy of Sciences held a competition, to which a wave-ist by the name of Fresnel submitted his work on diffraction. Diffraction occurs when waves bend around small objects (or spread out as they pass through openings in objects). One of the judges for the competition, a well-known scientist by the name of Poisson, was convinced that light is composed of particles, not waves. He used Fresnel's model to show that, if light did consist of waves, then one should, given the right experimental setup, expect to see a spot of light in the middle of the shadow of a small illuminated disk. Part of the reason that wave-ism predicts such a spot is that, by orienting a point light source and disk properly, one can guarantee that every point on the disk's edge is equidistant from the center of the disk's shadow and from the light source. Thus, if light consists of waves and those waves simultaneously bend around the disk, then they will arrive in phase at the center of its shadow. Because they arrive in phase, they will reinforce each other (this is called constructive interference), resulting in the bright spot. Ironically, Poisson thought he had refuted wave-ism by showing that it had this "absurd" consequence. Another judge, however, a physicist by the name of Arago, actually performed the experiment, and to Poisson's chagrin, a spot of absurd light did in fact appear in the center of the shadow just as Fresnel's model had predicted. This spot came to be known as Poisson's spot or, for those with no sense of irony, as Arago's spot. Fresnel, by the way, won the competition.

Particle-ism fits this datum very badly. (By a "datum" I mean a fact that is known to obtain or a phenomenon that is known to be real.) If light consists solely of particles, then one would expect opaque objects properly oriented relative to a light source to perfectly shade anything

<sup>1</sup> I borrow this line from an episode of the television comedy series *The Big Bang Theory*.

directly behind them. Analogously, if someone is firing bullets at you, just stay behind a sufficiently large and strong shield and you need not worry, because bullets, being particles, will not bend around the shield and hit you. Of course, you may want to wear hearing protection, since the sound waves generated by the firing of the gun will bend around the shield and strike your ears, even if the shield itself is perfectly soundproof.

So here we have a classic case in which one theory, wave-ism, fits a datum, Poisson's spot, better than another theory, particle-ism. More specifically, it predicted that datum while particle-ism made the opposite prediction, but there's nothing special about prediction here. If the experiment had taken place before anyone had ever postulated wave-ism or even if wave-ism were formulated precisely in order to account for this datum, the datum would have favored wave-ism over particle-ism to precisely the same degree. The key is that, given our background information, we have much more reason to expect the datum in question if we assume the one theory to be true than if we assume the other theory to be true.

Notice the role of background information here. Wave-ism does not all by itself entail or even make likely the appearance of Poisson's spot. Given, however, the background information possessed by Poisson and Arago, including crucial knowledge about how particles and waves of various sorts behave and of course Fresnel's specific work on diffraction and Poisson's calculations based on that work, there is good reason to expect the spot if wave-ism is true, while it is very surprising (though not impossible) given particle-ism. In short, wave-ism fits the datum of Poisson's spot much better than particle-ism does. Further, wave-ism and particle-ism appear to make symmetrical claims of equal logical strength and coherence; so it would be hard to defend the claim that wave-ism is intrinsically less probable than particle-ism. For these reasons, particle-ists in the nineteenth century faced a serious "problem of Poisson's spot." Partly because of this problem and partly because of other similar problems, most scientists in the nineteenth century eventually abandoned particle-ism (though the theory famously made a comeback early in the twentieth century).

#### THE ARGUMENT

Scientific debates about the nature of light have nothing to do with the philosophical problem of evil if you focus on the subject matter of those debates but quite a bit to do with it if you focus on the structure of the

reasoning in those debates. My argument from evil has a similar structure. It compares Theism to an alternative theory that I will call “source physicalism,” focusing in part on which of these two theories better fits the relevant data. Here is my official statement of the argument:

1. Source physicalism is much (that is, many times) more probable intrinsically than Theism.
  2. Source physicalism fits the data of good and evil much better than Theism does.
- It follows from 1 and 2 that
3. Other evidence held equal, Theism is very probably false.

Neither of the premises of this argument is obviously true. Each needs defense. In addition, an explanation of how the argument’s conclusion is related logically to its two premises is needed.

Before doing all that, however, it is important to define two of the key terms in the argument, namely, “source physicalism” and “Theism.” I won’t abbreviate “source physicalism” as “physicalism,” because philosophers generally use the term “physicalism” to abbreviate “ontological physicalism,” which is the view that everything – or, to be redundant, every *existing* thing – is physical. Appearances do not universally support ontological physicalism (which is not to say that it appears to be false), because mental entities – that is, minds and things located in minds – do not appear to be physical – that is, they do not appear to be regions of space or things located in regions of space. Even if ontological physicalism is false, however, source physicalism might still be true, because it is a claim about the source of mental entities, not about their nature. Source physicalists, whether they are ontological physicalists or ontological dualists, believe that the physical world existed before the mental world and caused the mental world to come into existence, which implies that all mental entities are causally dependent on physical entities. Further, even if they are ontological dualists, source physicalists need not claim that mental entities never cause physical entities or other mental entities, but they must claim that there would be no mental entities were it not for the prior existence (and causal powers) of one or more physical entities.

The distinction between source physicalism and ontological physicalism exactly parallels another distinction, namely, one between source idealism and ontological idealism. Ontological idealism is the view that everything is mental. Once again, appearances do not universally support it (which is not to say that it appears to be false), because physical entities do not appear to be minds or things located in

minds. Even if ontological idealism is false, however, source idealism might still be true, because source idealism is a claim about the source of physical entities, not about their nature. Source idealists believe that the mental world existed before the physical world and caused the physical world to come into existence. This view is consistent with both ontological idealism and ontological dualism and also with physical entities having both physical and mental effects. It entails, however, that all physical entities are, ultimately, causally dependent on one or more mental entities and so is not consistent with ontological physicalism.

Theism is a form of source idealism. It takes God to be or to have a mind and holds that God intentionally brought into existence the physical world for some purpose. Thus, according to Theism, God is a person like us. Unlike us, however, God possesses power, knowledge, and goodness perfectly or to an optimal degree, from which a further inference is made (at least implicitly) to the conclusion that God possesses them to a maximal degree. That there are maxima here is controversial, but Theists seem to be confident that there are, and so they maintain that God is omnipotent (all powerful), omniscient (all knowing), and omnibenevolent (perfectly good).

Obviously source physicalism and source idealism cannot both be true. It is at least conceivable, however, that both are false. For example, perhaps a sort of panpsychism is true according to which every existing thing (except for abstract objects if any such objects *exist*) consists of a single sort of “stuff” that has both physical and mental aspects. Or perhaps something that transcends all but our most general categories and so is neither physical nor mental is the source of both physical and mental reality. (Some theists – but not Theists with a capital “T” of course – believe that God is like this.) Or perhaps (in some very weak sense of “perhaps”) eliminative physicalism or eliminative idealism is true, in which case either the mental world or the physical world doesn’t even exist. Let us group together all of the possible alternatives to source physicalism and source idealism under the single banner of “otherism.” Given these definitions, exactly one of source physicalism, source idealism, and otherism must be true.

#### INTRINSIC PROBABILITY

With this terminology in place, I am now ready to examine the first premise of my argument, which says that source physicalism is intrinsically much more probable than Theism. By way of introduction, I will

return as promised to the story of Poisson's spot. Switching from actual history to hypothetical history, suppose that, faced with the problem of Poisson's spot, particle-ists at the time had expanded their theory instead of abandoning it, perhaps calling their expanded theory "particle-ism plus." This new theory, like the original one, states that light consists solely of particles, but it adds to this core theory the claim that the trajectories of those particles, unlike the trajectories of most other particles, are guided by waves. Particle-ism plus arguably fits the datum of Poisson's spot just as well as wave-ism. And since it entails particle-ism, a defense of particle-ism plus is in effect a defense of particle-ism. An interesting question, then, is this. Why didn't Poisson and other particle-ists in the early nineteenth century employ this strategy? Why should anyone back then have abandoned particle-ism given that particle-ism plus fits the datum of Poisson's spot just as well as wave-ism does?

The answer, of course, is that how well a theory fits the data is not the only thing that affects the credibility of scientific hypotheses. The probability of a theory depends not only on evidence – that is, on factors extrinsic to the theory that raise or lower its probability from some prior or initial probability – but also on intrinsic factors, factors that determine a theory's "intrinsic probability" – that is, its probability prior to all evidence. The problem with particle-ism plus is that it is intrinsically far less probable than wave-ism. But what is it about particle-ism plus that makes it less probable intrinsically than wave-ism? Two answers strike me as fairly obvious, which is not to say that they are uncontroversial.

First and foremost, particle-ism plus is much less modest than wave-ism. When I say that it is less modest, I mean that it has more "content" in the sense that it says "more" about the world that is not known by rational intuition to be true, where saying more involves making more claims or making claims that are broader in scope or that are more specific. The less one says about the world in this sense, the less room there is for error, and hence the more likely it is that what one says is true. So modesty is rather obviously a theoretical virtue: it makes a theory more likely to be true. Applying this to our theories of light, wave-ism and particle-ism are highly symmetrical. Both assert that light consists solely of one sort of entity. This suggests (and I will assume for the purposes of this chapter) that the two theories are equally modest. Particle-ism plus, however, says everything that particle-ism says and more. Thus, it is less modest than particle-ism and for that reason must be less modest than wave-ism.

A second reason that particle-ism plus is less probable intrinsically than wave-ism is that what it adds to particle-ism does not cohere

very well with particle-ism. Just as a theory can fit the data to different degrees, its parts (that is, the statements it is known to entail) can fit each other to different degrees. One part of a theory can support other parts, or it can be irrelevant to other parts, or it can count against other parts. Clearly, the more coherent a theory is – the better its parts fit together – the more likely it is to be true. So coherence, like modesty, is a theoretical virtue. Again, because of their symmetry and because there is no more or less internal tension in saying that light is a particle than in saying that it is a wave, it would seem that wave-ism and particle-ism are equally coherent. But the added claim that the trajectories of light particles, unlike the trajectories of most other particles, are guided by waves does not fit well with particle-ism for two reasons. First, it postulates the existence not of more particles interacting with light particles but of waves. Second, particle-ism plus implies that, while most other particles are not guided by waves, light particles are, which introduces even more probabilistic tension into the theory. One could, of course, remove the clause about most other particles not being guided by waves, but that would just shift the problem from one of poor intrinsic fit to one of poor extrinsic fit with the datum that most other particles are not guided by waves. So the lack of coherence of particle-ism plus – the fact that its parts, though consistent with each other, don't fit together well – is another reason that it is so much less probable independent of the data than wave-ism.

Now let's use these two theoretical virtues, modesty and coherence, to compare source physicalism, source idealism, and Theism. Source physicalism and source idealism, even more than wave-ism and particle-ism, are highly symmetrical positions.<sup>2</sup> Both theories postulate the existence of mental and physical entities, and both assert that one of these two sorts of entities explains why there are any entities of the other sort. Further, for any position that a source physicalist takes on how the mental and physical worlds are related ontologically, there is a parallel, equally modest and equally coherent position that a source idealist might take, and vice versa. For example, while source physicalists might hold that mental entities are constituted by physical entities, source idealists might hold that physical entities are constituted by mental entities. Alternatively, both source physicalists and source

<sup>2</sup> This symmetry is deeper than surface grammar and invariant across perspectives. I note this because syntactical symmetry is not all that is important here (as Goodman's paradox makes clear), and sometimes symmetries considered from one (objective) perspective are asymmetries considered from another (equally objective) perspective (as Bertrand's paradox suggests).

idealists might, as I already mentioned, be mind–body dualists of various sorts. Of course, there are source idealists who are ontological physicalists about local minds including human minds but ontological dualists at a broader metaphysical level.<sup>3</sup> Similarly, a source physicalist might be an idealist about local physical objects, including tables and rocks and atoms, but a dualist at a broader level. I find both of these views quite strained – obviously their parts are far from a perfect fit – but the key point is that they are equally so. Neither is more or less coherent than the other. I conclude that the symmetry between source physicalism and source idealism is deep enough to justify the position that these two theories are equally modest and equally coherent.

This implies that Theism is analogous to particle-ism plus. I could even call it “source idealism plus” (but I won’t). Just as particle-ism plus is much less probable intrinsically than particle-ism and so much less probable intrinsically than wave-ism, Theism is much less probable intrinsically than source idealism and so much less probable intrinsically than source physicalism. Theism is much less probable intrinsically than source idealism because it claims that source idealism is true and then adds two other claims to source idealism, namely, the claim that the mental reality responsible for the existence of physical reality is a person and the further very immodest claim that this person is omnipotent, omniscient, and omnibenevolent. Even granting that these additional claims fit well with each other and with source idealism, their specificity makes them risky even if source idealism is assumed to be true. Therefore, since source physicalism is just as probable intrinsically as source idealism, it follows that source physicalism, because of its greater modesty, is much more probable intrinsically than Theism. Figure 1 illustrates this argument. The amount of space occupied by otherism in this figure was chosen arbitrarily. It makes no difference to the argument. All that is important is that source physicalism and source idealism occupy equal amounts of space and that Theism occupies a relatively small portion of the space occupied by source idealism.

Of course, this argument for my first premise depends on the assumption that intrinsic probability depends only on modesty and coherence. This seems fairly obvious to me. If we abstract from all factors that are extrinsic to a hypothesis (e.g., all confirming and disconfirming data,

<sup>3</sup> Peter van Inwagen is one notable example. He believes that God exists and that God is a nonphysical person, but he also is a physicalist about human persons. For his defense of local physicalism, see chapter 9 of his *Metaphysics*, 3rd edition (Boulder, CO: Westview Press, 2009).

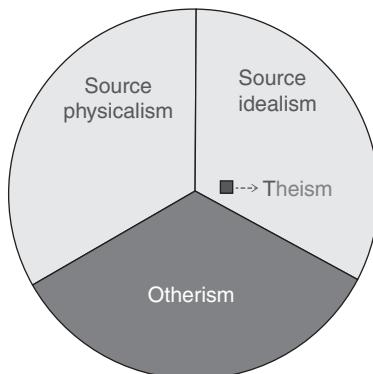


Figure 1

arguments, perceptions, etc.), focusing only on what is intrinsic to the hypothesis, then what else could its probability depend on other than how little it says and how well what it says fits together? Still, some philosophers deny this assumption, claiming either that intrinsic probability is largely subjective or that it depends primarily on how simple a theory is.<sup>4</sup> I reject the first claim because it implies falsely that theory choice in science and elsewhere is radically subjective. I am sympathetic to the second claim because I agree that simplicity (whether understood as ontological parsimony, linguistic elegance, or intelligibility) is a theoretical virtue. This reveals no defect in my argument, however, because, as I have argued elsewhere,<sup>5</sup> the reason that certain facets of simplicity make a theory more likely to be true is that they are either identical to or correlated with greater modesty or greater coherence.

Suppose, however, that I am wrong about that. Suppose, in other words, that intrinsic probability depends on something besides modesty and coherence. Because of the symmetry of source physicalism and source idealism, it's very unlikely that this would undermine the first premise of my argument. For example, each hypothesis is committed to the existence of both physical and mental entities and nothing else, so Occam's razor won't cut in favor of one theory over the other. In addition, neither theory can be stated more concisely than the other, so considerations of "elegance" can't be used to justify assigning one of the two

<sup>4</sup> For a defense of the latter view, see R. Swinburne, *Epistemic Justification* (Oxford, Clarendon Press, 2001), 83–102.

<sup>5</sup> Paul Draper, "Simplicity and Natural Theology." In *Reason and Faith: New Essays in Honor of Richard Swinburne*. Ed. M. Bergmann and J. E. Brower (Oxford University Press, forthcoming).

theories a higher intrinsic probability. Thus, it is with a considerable amount of confidence that I conclude that the first premise of my argument is true. Further, the truth of that premise is itself a strong *prima facie* reason to believe that source physicalism is much more likely to be true than Theism and hence that Theism is very probably false. But this reason has nothing to do with good and evil, so let's turn to the second premise of the argument.

### THE DATA OF GOOD AND EVIL

The heart of the problem of evil for Theism is very similar in structure to the heart of the problem of Poisson's spot for particle-ism. In both cases, at least one serious alternative theory (where seriousness depends in part on relative intrinsic probability) fits a certain body of data far better. In the case of particle-ism, the relevant alternative was, at least in France in 1818, wave-ism, and the datum in question was Poisson's spot. In the case of Theism, that alternative is source physicalism, and the data in question are the data of good and evil. By the "data of good and evil" I mean to include a variety of known facts about the quality of the lives led by human beings and any other living things capable of being benefited or harmed from their own internal point of view. I do not mean to include information about the existence or nature of the living things on earth or about the various conditions that make life of that sort possible in the first place. Such information should not be ignored in evaluating premise 2 of my argument. But it has the status of background information rather than evidence. Treated as evidence, it is relevant to the issue of how significant the conclusion of the argument is, including as it does the clause "other evidence held equal." Even with these restrictions on what counts as part of the data of good and evil, my space in this chapter is too limited to discuss all of those data. I will, however, discuss three very important sets of facts, one about (physical) pleasure and pain, one about flourishing and languishing, and one about what Eleonore Stump has called the "desires of the heart."<sup>6</sup> Premise 2 of my argument from evil should be interpreted as the claim that source physicalism fits these particular facts much better than Theism does. In other words, we have much more reason to expect these facts to obtain if we assume that source physicalism is true than if we assume that Theism is true.

<sup>6</sup> E. Stump, *Wandering in Darkness: Narrative and the Problem of Suffering* (Oxford: Oxford University Press, 2010). See especially chaps. 11 and 14.

To see that this is so, imagine two alien beings much like us in intellectual ability and gradually learning everything we know (and nothing more) about our biosphere. To make them even more similar to us, let us also suppose that these two beings know as little about themselves as possible and don't take into account what they do know when they engage in theoretical reasoning. One of these alien beings is named Sophy, spelled S-o (which is the first two letters of "source") p-h-y (which is the first three letters of "physicalism"); Sophy, surprise surprise, is convinced that source physicalism is true. The other alien is Theo. Theo, of course, is equally confident that Theism is true. Having already acquired a great deal of information about Earth and its inhabitants, Sophy and Theo begin to acquire the data of good and evil. As these data slowly trickle in, Sophy and Theo quite reasonably form different expectations based on their respective worldviews about what they will soon learn about the conscious beings that they already know to exist on Earth. I contend that Sophy's expectations will be confounded much less often and much less severely than Theo's. One reason for this – the only reason I will emphasize in this book – is that the assumption that Theism is true, unlike the assumption that source physicalism is true, undermines certain inferences based on background information that Sophy and Theo share.

The first set of facts I intend to discuss concerns, as I said, pleasure and pain.<sup>7</sup> After learning that human beings and some other animals feel (physical) pain and pleasure, Sophy and Theo may consider the question of what role pain and pleasure play in the lives of human beings and animals. Having previously learned that many other parts of living organisms play a biological role – they systematically promote survival and reproduction – Sophy may expect to learn, or at least not be surprised to learn, that pain and pleasure play a similar role, especially since they are so well suited to function in that way. Theo has much less reason to make such a prediction. He will note that pain and pleasure have a special sort of moral significance that other parts of organic systems do not have. There is good reason for Sophy to ignore this difference, to regard it as an irrelevant dissimilarity when she reasons analogically about what role pain and pleasure are likely to play in the world. Theo, however, believes in a perfectly good God, a powerful and wise God who presumably cares about the happiness of his creatures. Thus, he should not be confident at all

<sup>7</sup> For a much more detailed discussion of these facts than is possible here, see my "Pain and Pleasure: An Evidential Problem for Theism," *Nous* 23 (1989): 331–50.

that the moral difference between pain and pleasure on the one hand and other parts of living things on the other is not important. Because of this difference, Theo will reason, God might very well treat pain and pleasure differently from other parts of organic systems. So Theo has much less reason than Sophy to expect to learn that pain and pleasure play the biological role that in fact it turns out they do play. Further, given that human beings are moral agents, Theo no doubt has some reason to expect pain and pleasure to play some systematic and discernible moral role in human lives. While they certainly do play a moral role, it is so far as we can tell hardly a systematic one. For example, pain and pleasure do not systematically function as punishment and rewards promoting the moral goal of justice. Nor do they systematically promote moral or spiritual development. Sophy, by contrast, expects to find and does in fact find that the rain on the planet Earth falls on both the just and the unjust and that pain and pleasure are for the most part incompetent moral trainers and spiritual guides, and not just because people freely resist such training and guidance.

Of course, facts about physical pleasure and pain hardly settle the issue of whether source physicalism or Theism is a better fit with the data of good and evil. For it is possible to suffer much from physical pain and still flourish, and it is also possible to suffer little, feel much physical pleasure, and yet never flourish. Thus, we may suppose that, after Sophy and Theo learn a great deal about the distribution of pain and pleasure on earth, they still do not yet know anything substantive about how flourishing and languishing are distributed among the sentient beings in the world. We may also suppose that, prior to learning anything about that, they learn that very many plants die before they ever have a chance to flourish, that very many others languish for much or all of their lives, and that even plants that flourish for much of their lives eventually wither and die. They then consider the question of whether the sentient beings on earth (including of course human beings) suffer the same fate as plants. Is death at a very young age common? Do very many animals barely survive, languishing for most or all of their lives? Do the ones that manage to flourish for a time still face decay and death in old age?

Being a source physicalist and (like Theo) seeing a connection between these ecological facts and the operation of natural selection, Sophy expects to learn that the answers to these questions are all "yes." Of course, there is an interesting moral difference between plants and conscious animals, since the latter, unlike the former, can be made

worse off from their own internal point of view; and when Sophy reasons analogically from facts about plants to the likelihood of similar facts obtaining in the case of animals, she will ask herself whether her inference is undermined by this difference. In other words, does she have any reason to believe that this dissimilarity between conscious animals and plants is a relevant one? Because she is a source physicalist, she will with good reason answer this question negatively. For relative to source physicalism combined with all of the information Sophy and Theo already have about the physical (and mental) world, there is no good reason to believe that terrestrial evolution is guided or that it is sensitive to moral considerations.

Theo's Theism, on the other hand, gives him substantial *prima facie* reason to believe that these dissimilarities are relevant; for he believes that the ultimate cause of evolution and of all ecological, botanical, and zoological facts is an omnipotent, omniscient, and omnibenevolent God. Such a God, being omniscient, would be well aware that flourishing in the biological sense can benefit some animals (but no plants), and languishing can harm them. Being omnipotent, such a being would be as well positioned as possible to ensure, either by directly intervening in the world or by manipulating the laws and initial conditions of the universe, that all or almost all sentient animals flourish for at least most if not all of their lives. And being omnibenevolent, such a being would, other moral considerations held equal, want such beings to flourish. So Theo, if he is reasonable, will regard the analogical reasoning that Sophy used when she inferred that sentient life fares no better than nonsentient life to be virtually worthless. Clearly he would be foolish to believe that what he knows about plants provides significant support for the prediction that large numbers of conscious animals either die young or survive but languish for most or all of their lives. Notice that my argument here assumes the truth of experientialism, which is the view that only conscious beings have moral standing because only they can be literally benefited or harmed – that is, made better or worse off from their own internal point of view. If this assumption is correct (and the vast majority of moral philosophers believe it is), then one important objection to my argument fails, namely, the objection that if God has a moral justification for allowing many plants to languish (which he must if Theism is true and many plants do in fact, as Theo knows, languish), then it is likely that God also has a moral justification for allowing many animals to languish.

Of course, Theo recognizes that both his knowledge of possible goods and evils and his knowledge of entailment relations between

goods and evils are very limited. Thus, he realizes that there might be moral reasons unknown to him for the Theistic God he believes in to bring about a biosphere in which virtually all conscious beings feel a significant amount of physical pain and in which many conscious beings fail to flourish and so fail to achieve one of the goods for which they appear to be designed. He also recognizes, however, that he has at least as much reason to believe that God would have reasons *unknown* to him *not* to create a world of that sort. Thus, it is the known reasons that must break the tie,<sup>8</sup> and those are reasons to create an animal world in which physical pain is rare and in which extended flourishing is the rule rather than the exception. So even though Theo is not sure what his God will do, he certainly cannot simply dismiss as irrelevant either the moral differences between pain (or pleasure) and other parts of organic systems or the moral differences between conscious animals and nonconscious living things; but this means that he should not be even close to as confident as Sophy is in the relevant analogical arguments that Sophy uses to make her predictions. Of course, the conclusions of those arguments are true. So when the relevant data comes in, Sophy will turn to Theo and say, "See? I told you so. Source physicalism fits this body of data much better than Theism does." A bit snotty, perhaps, but logic and reason are on her side.

Theo, however, may not yet be convinced. In fact, the poor performance of his theory thus far may make him more confident than ever that a third set of facts will at least partially redeem him. For even someone who never flourishes in the biological sense and who suffers greatly from physical pain might still obtain the desires of their heart – the things they want most of all from life. Even though Theo has by now inferred from Theism and the data he has thus far obtained that God has morally good reasons to permit great evils like intense pain and chronic poor health, he still has much more reason than Sophy has to be optimistic about the balance of good and evil in this third dimension of value. For satisfying one's heart's desires increases well-being, at least other factors held equal, and the assumption that God, who (being morally perfect) has a *pro tanto* desire to increase our well-being, has unknown good reasons not to prevent the pain and languishing we observe in the

<sup>8</sup> It is important to keep in mind that Theo is making predictions here. Once he acquires the relevant data, he may, *if* he has inferential or noninferential evidence for Theism that makes Theism probable in spite of my argument (and other reasons to believe that Theism is false), reasonably infer from the evils in the world and the failure of theodicy that God has unknown reasons to permit those evils. This is why the conclusion of my argument includes the clause "other evidence held equal."

world does not make it likely that God has unknown reasons to allow desires of the heart to be routinely frustrated. Imagine Theo's surprise, then, when the data once again confound his expectations and he learns that, when it comes to the desires of the heart, tragedy and heartbreak are more common on earth than triumph and the fulfillment of one's dreams and aspirations.

### THEODICIES AND SKEPTICAL THEISM

At this point, Theo may be experiencing a significant amount of cognitive dissonance, which he will, if he is psychologically similar to human beings, try to reduce, most likely in one of at least two ways. First, he might construct theodicies – that is, he might try to formulate auxiliary hypotheses about God's purposes and how their accomplishment allegedly depends on God's allowing evil. The goal here is to boost Theism's fit with the data, which is a perfectly reasonable project unless of course Theo biases his inquiry by seeking only auxiliary hypotheses that boost Theism's fit with the data and not also hypotheses that reduce it or that boost (or reduce) source physicalism's fit with the data. (Fortunately, knowing Theo like I do, I'm sure he would never be as one sided as human theodicists seem to be.) Second, if he (correctly) comes to believe that all of his efforts at theodicy are, to quote Alvin Plantinga, "shallow, tepid, and ultimately frivolous,"<sup>9</sup> he may be tempted by the idea that, given how little we know about what goods and evils there are and what logical relations goods and evils bear to each other, we can't really judge how well or poorly Theism fits the data of good and evil, and so we can't really judge that source physicalism fits those data better than Theism does. If he likes oxymorons, he might even call his new position "skeptical Theism."<sup>10</sup>

Switching stories, notice that particle-ists in the nineteenth century could have made a similar skeptical move in response to the problem of

<sup>9</sup> Alvin Plantinga, "Epistemic Probability and Evil." In *The Evidential Argument from Evil*. Ed. D. Howard-Snyder (Bloomington: Indiana University Press), 70. Plantinga says here only that "most" theodicies strike him this way. He now defends a theodicy of his own.

<sup>10</sup> I coined the term "skeptical theism" in my 1996 paper, "The Skeptical Theist." In *The Evidential Argument from Evil*. Ed. Howard-Snyder (Indianapolis, IN: Indiana University Press, 1996), 175–92. I did not, of course, invent the position, nor did I defend it. My 1996 paper was primarily a response to Peter van Inwagen's version of skeptical theism. See his "The Problem of Evil, the Problem of Air, and the Problem of Suffering." In *The Evidential Argument from Evil* (Indianapolis, IN: Indiana University Press, 1996), 151–74.

Poisson's spot. After failing at the project of particlodicy, they might have defended skeptical particle-ism, claiming that we know so little about what physical forces there are and how they might affect the trajectory of light particles that we can't really judge whether or not or how well particle-ism fits the datum of Poisson's spot, and thus there is no good reason to believe that wave-ism fits that datum better than particle-ism does. Indeed, I recently discovered the writings of a nineteenth-century Spanish physicist who defended precisely this position. His name was Pedro van Outwagen. (Yes, I know, I too was surprised to learn that "van Outwagen" is a Spanish surname.) Van Outwagen claimed that, for all we know now (remember van Outwagen was writing in the nineteenth century), particle-ism plus is true and if it is true, then particle-ism does predict the datum of Poisson's spot after all; so for all we know, particle-ism fits the datum of Poisson's spot just as well as wave-ism does. In addition, a contemporary of van Outwagen's named Esteban Lykstra (also a Spaniard, strangely enough) reasoned that, if there is some physically sufficient reason why light, in spite of its corpuscular nature, bends around the edges of objects, then given the current state of physical science, it is not likely that we would know what that reason is. Lykstra concluded in his original paper on this topic that Poisson's spot is no evidence at all against particle-ism. In his later work, he only denied that it is *serious* evidence against particle-ism.

Skeptical particle-ism is mistaken for multiple reasons. Van Outwagen erred by confusing "epistemic" fit, which is relative to one's current evidential situation, with some absolute notion of fit. Lykstra made a less subtle mistake, one that devout particle-ists repeated *ad nauseam* for decades after he made it. From the fact that, if particle-ism were true, we would be unlikely to know the reason why light particles bend around the edges of objects, all that follows is that our ignorance of that reason (that is, the failure of the project of particlodicy) is not strong evidence against particle-ism. It does not follow that the datum of Poisson's spot itself is not strong evidence against particle-ism.

Transferring these points to skeptical Theism, even if Peter van Inwagen is right that we can tell an epistemically possible story in which God allows the evils we find in the world, it hardly follows that for all we know Theism fits – in the relevant *epistemic* sense of "fit" – the data of evil as well as source physicalism does.<sup>11</sup> Unless such a story is, *independent of our knowledge of the data of good and evil*, sufficiently likely given Theism, it will not undermine the second premise

<sup>11</sup> P. Van Inwagen, *The Problem of Evil* (Oxford: Oxford University Press, 2006).

of my argument.<sup>12</sup> Further, from the alleged fact that, even if there were good reasons for a Theistic God to create a world like ours, we wouldn't expect to know what they are, all that follows is that our ignorance of those reasons (that is, the failure of the project of theodicy) is not strong evidence against Theism. It obviously does not follow that the evils themselves are not strong evidence against Theism, contrary to what Stephen Wykstra and many other philosophers of religion have been claiming for more than a quarter of a century.<sup>13</sup>

### THE INFERENCE

Part of the idea of my argument is that the probability of a theory being true, whether that theory is scientific or historical or metaphysical, depends in part on how well it fits the data and in part on its intrinsic probability. Fit with data is a matter of how likely or expectable or predictable a theory makes that data (or would make it in the right sort of idealized circumstances). Intrinsic probability is a function of modesty and coherence. Frequently there is tension between intrinsic probability and fit with data: one is often forced to choose between two theories, one of which is intrinsically more probable and the other of which fits the data better. This is inevitable, since by complicating a theory and thus making it less modest (and perhaps less coherent as well), it can often be made to fit the data.

The two premises in my argument claim that, when we compare source physicalism and Theism in light of the data of good and evil, we have a rare case in which one theory, source physicalism, has a large advantage both in fit with a significant body of data and in probability

<sup>12</sup> The failure to meet this standard is one of the reasons that Eleonore Stump's theodicy, for example, fails to undermine my argument. See her *Wandering in Darkness* and my critical study of that book in *Notre Dame Philosophical Reviews*, 2011.

<sup>13</sup> Wykstra makes this mistake in the final section of his important essay, "The Humean Obstacle to Evidential Arguments from Suffering: On Avoiding the Evils of 'Appearance,'" *International Journal for Philosophy of Religion* 16 (1984), 73–93. I point out and explain this mistake in "Confirmation Theory and the Core of CORNEA." In *Skeptical Theism: New Essays*. Ed. T. Dougherty and J. P. McBrayer (Oxford: Oxford University Press, 2014), 132–41. Wykstra now recognizes his mistake, defending a new version of skeptical Theism to deal with arguments like mine: see Timothy Perrine's and his "Skeptical Theism, Abductive Atheology, and Theory Versioning." In *Skeptical Theism*. Eds. Dougherty and McBrayer (Oxford: Oxford University Press, 2014), 142–63. This new version, however, is no more successful than the old version, or so I argue in "Meet the New Skeptical Theism, Same as the Old Skeptical Theism." *Skeptical Theism* Eds. Dougherty and McBrayer (Oxford: Oxford University Press, 2014), 164–77.

independent of data. In technical terms, this is called the “wow factor” of my argument. The upshot is that we have an unusually strong reason to believe that source physicalism is much more likely to be true than Theism. But it is only a *prima facie* reason. For we have other data besides the data of good and evil that must be taken into account, and what’s more, it is at least possible that the probabilities of source physicalism and Theism, perhaps unlike many scientific theories, depend on more than just fit with data and intrinsic probability. This is why the conclusion of my argument includes the clause “other evidence held equal.” By “evidence,” I mean anything extrinsic to a theory (experiences, arguments, known facts, etc.) that raises or lowers the probability of that theory.

Again, consider the case of Poisson’s spot. Even if wave-ism fits the datum of Poisson’s spot much better than particle-ism does and is also just as probable intrinsically as particle-ism, it doesn’t follow that wave-ism is more probable, all things considered, than particle-ism, because there are other data to be considered besides Poisson’s spot, including data about shadows, reflection, refraction, and so on. Indeed, a serious blow came to wave-ism in the early twentieth century when Einstein showed that, if light is made up of photons (which qualify as particles in a broad sense), then the photoelectric effect could be explained. This was a victory for particle-ism over wave-ism, though scientists ultimately rejected both theories in favor of a third theory that attributes some sort of wave-particle duality to light and to other physical things as well.

Similarly, before we can conclude that Theism is very probably false or even that it is probably false, we need to compare how well Theism and source physicalism fit other data besides the data of good and evil. For example, it might be argued that Theism, unlike source physicalism, fits well with data like consciousness, libertarian free will, and deontic (as opposed to merely evaluative) moral facts. I believe that some of this evidence does favor Theism over source physicalism but that, once undercutting defeaters and additional evidence favoring source physicalism over Theism are taken into account, no significant overall advantage for Theism remains.

Also motivating the “other evidence held equal” clause in the conclusion of my argument is the fact that some philosophers deny that intrinsic probability and fit with data are the only factors affecting the probabilities of Theism and its alternatives. So-called Reformed epistemologists, for example, claim that we have a special cognitive faculty called a *sensus divinitatis* that gives some of us direct evidence for God’s existence. Indeed, some Reformed epistemologists (e.g. Alvin Plantinga)

believe that, for a number of lucky epistemic elites, that evidence is so powerful that it overwhelms any advantage in intrinsic probability and fit with data that source physicalism has over Theism, even if that advantage is large.

While I find the assertion that all of this is true as opposed to just true for all we know epistemically reckless, Reformed epistemologists are certainly correct that direct or noninferential evidence can be very powerful. Also, if cognitive scientists of religion are to be believed, forming beliefs about invisible agents including gods is very natural for human beings in certain common circumstances. We tend to form such beliefs instinctively, without inferential evidence, and our tendency to do so is not culture specific but species specific, contrary to what most social scientists seem to believe. Obviously, we have no similar tendency to form the belief that light consists solely of particles. So we should take the Reformed epistemologist's appeal to a *sensus divinitatis* more seriously than we would take a particle-ist's appeal to a *sensus illuminatis*.

Still, there are at least three good reasons to doubt that Reformed epistemology solves the problem of evil. First, an inclination to believe in some sort of god or gods is not an inclination to believe in the God of Theism. This doesn't show that such an inclination doesn't support Theism over source physicalism, but it limits how strong that support can be. Second, even if the inclination to form beliefs about gods in certain circumstances is widespread, it is not close to as strong or as universal as the inclination to form beliefs about the past or about physical objects or about other human minds. (Indeed, in many cases, it merely causes theists to consciously entertain beliefs about God that they already have.) This renders doubtful the Reformed epistemologists' claim that many Theists have *very strong* offsetting evidence supporting Theism. Third, even if everything Reformed epistemologists say about the *sensus divinitatis* were correct, it would be a mistake to conclude categorically that my argument from evil is unsound, because the probabilities in my argument are relative to evidential situations. Thus, my argument might still establish its conclusion relative to the evidential situations of those of us who do not have a properly functioning *sensus divinitatis*, and this includes, I think most Reformed epistemologists would be willing to grant, many Theists as well as non-Theists. Those engaged in the sort of philosophical inquiry in which I am engaged may find the claims of others to have special faculties or ways of knowing interesting, but, lacking evidence for those claims, they will not find them relevant or useful. After all, if one is trying to determine by philosophical inquiry whether or not God exists, then it does not help to learn

that if God exists, then some people probably have a special faculty that enables them to know he does.

I draw two conclusions in this chapter. First, if additional evidence does not on the whole favor Theism over source physicalism, then premises 1 and 2 of my argument establish that source physicalism is *much* more probable than Theism. This does not imply that source physicalism is probably true, but it does imply that Theism is *very* probably false. Second, even if additional evidence on the whole favors Theism but fails to favor it *strongly*, then my premises still show that Theism is *probably* false.

#### FURTHER READING

*On evidential arguments from evil:*

Tooley, Michael. "The Problem of Evil." *The Stanford Encyclopedia of Philosophy* [Fall 2015 Edition], Edward N. Zalta (ed.), <http://plato.stanford.edu/archives/fall2015/entries/evil/>.

*On theodicies:*

Collins, Robin. "The Connection-Building Theodicy," in *The Blackwell Companion to the Problem of Evil*, ed. Justin P. McBrayer and Daniel Howard-Snyder. Hoboken, NJ: John Wiley & Sons, Inc., 2015, 222–35.

Swinburne, Richard. *Providence and the Problem of Evil*. Oxford: Clarendon Press, 1998.

*On skeptical theism:*

Bergmann, Michael. "Skeptical Theism and the Problem of Evil," in *The Oxford Handbook of Philosophical Theology*, ed. Thomas P. Flint and Michael Rea. New York: Oxford University Press, 2008, 374–402.

Draper, Paul. "The Limitations of Pure Skeptical Theism," *Res Philosophica* 90 (2003): 97–111.