

Chapter 20: Final Reckoning

There are so many different controversies about theism and atheism that it is hard to obtain a synoptic view of all of them.

There is disagreement about what theism and atheism are. Some take them to be *claims*. Some take them to be *beliefs*. Some take them to be *theories*. Some take them to be *worldviews* (comprehensive theories). Some take them to be *ways of life*. I think that we do best to suppose that they are claims. The claims in question can be believed; they can belong to theories; they can belong to worldviews; their acceptance can be central to ways of life.

Given that theism and atheism are claims, there is disagreement about what these claims are. Some take theism to be the claim that *there are gods*; other take theism to be the claim that *God exists*. Some take atheism to be the claim that *there are no gods*; others take atheism to be the claim that *God does not exist*. I think that we do best to take theism and atheism to be very general claims: that there are gods, and that there are no gods, respectively. Note that, following standard contemporary practice in philosophy, I suppose that *there are Fs* is true if and only if *there is at least one F*. Moreover—though some do not like this way of putting things—I shall suppose that *God exists if and only if there is exactly one god*. (Some suppose that if God is a god, then it follows that there could be other gods. But this does not follow. Suppose, as many theists do, that, if there is a god, then there is just one god and it is necessary that that god exists, and it is necessary that no other god exists. Suppose that there is a god. Given our assumptions, it follows, not only that this god is God, but also that there could not possibly be any other god or God.)

Even given this account of theism and atheism, there is disagreement about what it takes to be a theist or an atheist. For example, some think that atheists are those who fail to accept that there are gods. I think that we do best to adopt a fourfold scheme of classification: *theists* accept that there are gods; *atheists* accept that there are no gods; *agnostics* suspend judgment on the question whether there are gods; and *innocents* have never so much as entertained the thought that there are gods. Atheists, agnostics and innocents alike fail to accept that there are gods.

Even given this account of theists and atheists, there is disagreement about exactly how *acceptance* should be understood. Must one *believe* the central claim (or, perhaps, other claims that entail the central claim)? Is it enough if one merely *hopes* that the central claim is true? How should we classify someone who, while failing to believe that God exists, nonetheless hopes that God exists? While I propose to work with characterisations that invoke belief, I note that there are other attitudes—including hope and faith—that relate to belief in interesting and important ways.

There is disagreement about whether belief alone suffices to characterise theists and atheists. Some suppose that the characterisation should advert to claims to *knowledge*. Some suppose that the characterisation should advert to claims to *proof*. Some suppose that the characterisation should advert to claims to *certainty*. Some suppose that the characterisation should advert to claims to *resistance to revision of opinion*. I think that we should reject all of these suggestions. For theists and atheists alike, there is a distribution across the entire spectrum from dogmatic conviction to hesitant acceptance. Some make claims to proof and knowledge; others do not. Here, as elsewhere, we should not mistake the part for the whole.

There is disagreement about what we are primarily interested in evaluating when we turn our attention to atheism and theism. Some suppose that we wish to evaluate the *truth* of the central claims. Some suppose that we wish to assess the *rationality* of the central beliefs. Some suppose that our focus should be on theories that include or entail the central claims. Some suppose that our focus should be on worldviews that include or entail the central claims. Some suppose that our focus should be on ways of life that are appropriately related to the central claims. I think that we do not need to choose. The questions about truth of claim and rationality of belief are important; but they can only properly be addressed by thinking about the truth of theory and worldview, and the rationality of way of life.

Given we wish to assess the truth of worldviews and the rationality of ways of life, we immediately run into significant difficulties. There is enormous diversity in theistic worldview and theistic way of life; and there is enormous diversity in atheistic worldview and atheistic way of life. Many, but not all, theists are religious; many, but not all, theists belong to organised religions. Many, but not all, theists are monotheists; many, but not all, theists believe in an Abrahamic God. Some monotheists are politically and doctrinally conservative; some are not. Among Christian theists, some think that God is *literally* a person; some do not. Similar things are true of atheists. Many, but not all, atheists are non-religious; many, but not all atheists, do not belong to organised religions. Many, but not all, atheists are naturalists; many, but not all, atheists suppose that there are none but natural causal entities with none but natural causal powers. Some atheists are politically and socially liberal; some are not. Some atheists are materialists; some atheists are physicalists; some atheists are humanists; some atheists are communists; many atheists are none of these things.

Given the diversity of worldviews and ways of life, it is massively implausible to suppose that *all* of the worldviews and ways of life on one side are better than *all* of the worldviews and ways of life on the other side. Some theistic worldviews and ways of life are better than some atheistic worldviews and ways of life; some atheistic worldviews and ways of life are better than some theistic worldviews and ways of life. Indeed, some theistic worldviews and ways of life are better than *other* theistic worldviews and ways of life; and some atheistic worldviews and ways of life are better than *other* atheistic worldviews and ways of life.

In order to undertake a philosophically interesting project, it seems that we ought to be comparing *best* theistic worldviews and ways of life with *best* atheistic worldviews and ways of life. At least in principle, given that we have a best theistic worldview W_T and a best atheistic worldview W_A , we can see how to compare them. First, we formulate the worldviews: we make them fully explicit. Second, we weigh the virtues of the worldviews: we check to see which one is better, working from an agreed set of criteria. Similarly, at least in principle, given that we have a best theistic way of life L_T and a best atheistic way of life L_A , we can see how to compare them. First, we formulate the ways of life: we make them fully explicit. Second, we weigh the virtues of the ways of life: we check to see which one is better, working from an agreed set of criteria.

In practice, there are serious obstacles. If best worldviews are theories of everything, then we cannot make them fully explicit; even if best worldviews are merely our best current approximations to theories of everything, we cannot make them fully explicit. No single person or small team of people is across more than the tiniest fraction of our collective best current approximations to theories of everything. The best we can do, it seems, is to put together theories that address everything that is currently taken to be relevant to the question

whether there are gods: if the claim that p is relevant to the question whether there are gods, then exactly one of p and $\sim p$ is included—perhaps by entailment—in each fully articulated worldview.

Given that we have W_T and W_A , we can proceed to evaluate them. But how do we do that? A first step is to check W_T and W_A for logical consistency: if one is logically consistent and the other is not, then the logically consistent one wins immediately. Supposing that W_T and W_A are logically consistent, we move on to the next step: determining which is more virtuous. In order to make this determination, we need a canonical list of virtues and a means of weighing them. There is disagreement about both the members of the canonical list of virtues and the means of weighing them.

When we compare W_T and W_A , we will find that there are many claims on which W_T and W_A agree, and many claims on which W_T and W_A disagree. I think that, in the context of the assessment of the disagreement between W_T and W_A , we should take the claims on which they agree to be the *evidence* that is relevant to the assessment of the disagreement. Further, I think that we should suppose that we should prefer whichever of the theories best manages the trade-off between minimising theoretical commitments and maximising explanatory breadth and depth with respect to evidence. On this view, there is just one theoretical virtue: optimising the trade-off between minimising theoretical commitments and maximising breadth and depth of explanations of evidence. But there are two dimensions to this theoretical virtue. On the one hand, holding fixed explanatory breadth and depth, theories are better insofar as they minimise commitments to numbers and kinds of entities, primitive ideology, and primitive principles. On the other hand, holding fixed theoretical commitments, theories are better insofar as they give broader and deeper explanations of all of the relevant evidence. There are many other things that are commonly said to be theoretical virtues: fit with established knowledge, beauty, simplicity, unification, and so forth. But, in the context of our comparison between W_T and W_A , these are all plausibly incorporated in our single theoretical virtue. Beauty, simplicity, unification, and so forth are all properly subsumed under the minimisation of primitive principles, primitive ideology, and numbers and kinds of entities. And fit with established knowledge is guaranteed by the fact that *all* relevant evidence is taken into account.

Even if we agree our principle interest lies in determining which of W_T and W_A best manages the trade-off between minimising theoretical commitments and maximising explanatory breadth and depth, we find significant disagreement about how to make this determination. Many philosophers suppose that we can make a Bayesian calculation:

$$\frac{\Pr(W_T/E)}{\Pr(W_A/E)} = \frac{\Pr(W_T)}{\Pr(W_A)} \times \frac{\Pr(E/W_T)}{\Pr(E/W_A)}, \text{ where } E \text{ is the total evidence.}$$

Often enough, in order to make this calculation, we need a method for arriving at numerical values for the *prior probabilities*— $\Pr(W_T)$ and $\Pr(W_A)$ —and the *likelihoods*— $\Pr(E/W_T)$ and $\Pr(E/W_A)$. And, in the case of interest, it is highly controversial whether we can get agreed assignments for these numerical values. But, there are special cases in which we do not need numerical values: if one theory does better than a second on both the count of minimisation of commitments (prior probability) and the count of maximising explanatory breadth and depth (likelihood), then, without any calculation, we can conclude that the first theory is more virtuous than the second.

If we suppose that, at least in principle, we can determine which of W_T and W_A is most virtuous, then perhaps we can use this determination to decide which of L_T and L_A is better. The guiding idea is that goodness of worldview is a trumping consideration: if one worldview is better than a second, then the *best* ways of life that embed the first worldview are better than the *best* ways of life that embed the second worldview. We shall turn our attention to the dispute about worldviews; we will come back to the dispute about ways of life towards the end of this chapter.

The theistic contributors to this volume disagree among themselves about the full list of claims that belong to W_T ; and the atheistic contributors to this volume disagree among themselves about the full list of claims that belong to W_A . Nonetheless, we can identify some claims that almost all contributors to this volume agree belong *only* to W_T : God exists; God is omniscient; God is omnipotent; God is perfectly good; God is the sole creator of natural reality; God is the sole designer of natural reality; God is worthy of worship; and science is our touchstone for identifying merely natural causal entities, merely natural causal powers, and merely natural causal histories. Moreover, I think, we can identify some claims that almost all contributors to this volume agree belong *only* to W_A : there are none but natural causal entities with none but natural causal powers; nothing is omniscient; nothing is omnipotent; nothing is perfectly good; natural reality has no cause; natural reality has no designer; nothing is worthy of worship; and science is our touchstone for identifying *all* causal entities, *all* causal powers, and *all* causal histories.

Supposing—or, perhaps, pretending—that we have a good enough grasp of the content of W_T and W_A , what can we say about their comparative theoretical virtue? I start by considering what W_T and W_A have to say about natural causal reality. The most important point to note is that, by and large, W_T and W_A are in *agreement* about natural causal reality: by and large, W_T and W_A agree about what natural objects there are, what natural events occur, what natural causal powers are possessed by natural objects, and so on. However, despite this broad agreement about natural causal reality, there is no similar agreement about non-natural causal reality: whereas, according to W_A there are only natural objects, natural events, natural causal powers, and so forth, according to W_T there are, *in addition*, non-natural objects, non-natural events, non-natural causal powers, and so on. Since there is broad agreement between W_T and W_A on natural causal reality, and since W_A supposes that causal reality is exhausted by natural causal reality, and since W_T supposes that there is also non-natural causal reality—involving additional objects, events, powers, principles, and so on—it is clear that W_A scores better than W_T on the count of theoretical commitments: the theoretical commitments of W_T outweigh the theoretical commitments of W_A .

What I just said is not *exactly* right. For many theists, there is only *broad* agreement with atheists about natural causal reality. Some theists suppose that there is special divine action in natural causal reality: some historical events involve more than merely natural objects with merely natural causal powers. Some theists suppose that there is also general divine action that enables and conserves natural causal reality. However, setting aside disputes about the details of history, these suppositions all involve objects, events, powers and principles to which atheists have no commitment: where there is the kind of disagreement about natural causal reality that I have just identified, this is always because theists take on additional theoretical commitments that atheists do not have. I think that this point about the weight of theoretical commitment is uncontroversial: theists, but not atheists, invest in ‘transcendence of natural causal reality’.

What about the details of history? Suppose, for example, that W_T says that, at a certain point in history, God became incarnate in a particular human being. Of course, W_A does not include—or entail—such a claim. However, W_A and W_T agree that there are many people who believe that God became incarnate in a particular human being at a particular point in history, and there are many old documents that purport to be records of a time when God became incarnate in a particular human being. When we consider the explanatory breadth and depth of W_A and W_T , one thing that we shall consider is the adequacy of the explanations that they give of the distribution of belief and the contents of the historical documents. However, so long as we restrict our attention to *agreed* history—the historical claims on which W_A and W_T agree—we get out the result that the theoretical commitments of W_T outweigh the theoretical commitments of W_A . Of course, it remains to be considered which of W_T and W_A gives the best explanation of the total data; if the explanation given by W_T is sufficiently superior to the explanation given by W_A , then we may have reason to accept the claim that, at a certain point in history, God became incarnate in a particular human being.

I anticipate that some will think that I have moved too quickly. Before we turn to consider comparative theoretical virtues, we need to consider logical consistency. If one of W_A and W_T is logically inconsistent, then we can declare a victor without any further consideration of theoretical virtue. Historically, there has been no shortage of champions of the view that one or other of W_A and W_T is logically inconsistent, or otherwise defeated on entirely *a priori* grounds.

Some atheists claim that the uniquely theistic ideology—‘god’, ‘omnipotent’, ‘transcendent’, ‘trinity’, etc.—is meaningless. Some atheists claim that the uniquely theistic theory is logically inconsistent. (Some atheists claim to show that it is logically inconsistent to suppose that something is omnipotent. Some atheists claim to show that it is logically inconsistent to suppose that something is omniscient. Some atheists claim to show that it is logically inconsistent to suppose that something is perfectly just and perfectly merciful. And so on.) Some atheists claim that the total atheistic theory is logically inconsistent. (Some atheists claim to show that it is logically inconsistent to suppose that God and evil both exist. Some atheists claim to show that it is logically inconsistent to suppose that God and horrendous evil both exist. Some atheists claim to show that it is logically inconsistent to suppose that God and enormous quantities of horrendous evil both exist. Some atheists claim to show that it is logically inconsistent to suppose that God exists and remains hidden from large parts of humanity. And so forth.)

Some theists claim that the uniquely atheistic theory is logically inconsistent. (Some theists claim to show that it is logically inconsistent to suppose that there is not something than which no greater can be conceived. Some theists claim to show that it is logically inconsistent to suppose that there is nothing that possesses all perfections. And so on.) More theists claim that the total atheistic theory is logically inconsistent. (Some theists claim to show that it is logically inconsistent to suppose that there is a causal reality but no God. Some theists claim to show that it is logically inconsistent to suppose that there is mindedness but no God. Some theists claim to show that it is logically inconsistent to suppose that there are moral facts but no God. And so forth.)

I think that all of the extant versions of all of these claims—against W_A and W_T —fail. There are no extant derivations of contradictions from sets of claims all of which plausibly belong to W_A ; and there are no extant derivations of contradictions from sets of claims all of which

plausibly belong to W_T . Almost always, when someone successfully derives a contradiction from a relevant set of claims, at least one of the claims is such that it is obvious that it does not belong to the target worldview. And, in other cases, where it *is* plausible to sheet home contradiction to some believers of a particular persuasion, a relatively minor adjustment restores consistency to their views without taking them any distance towards the opposing camp. (I defend these views at length in Oppy (2006). I do not believe that they can be fully defended except by exhaustive examination of cases; and that is no short task. However, it is worth noting that it is *prima facie* completely implausible to suppose that there are extant derivations of the inconsistency of W_A or W_T . It is pretty much inexplicable why there are professional philosophers of both stripes with heavy-duty logical expertise if there are derivations that show that the best views on one side are logically inconsistent. Of course, that's not to say that there will not be logical inconsistencies in W_A or W_T that are discovered in the future. But given a couple of thousand years full of nothing but false alarms, I would not be holding my breath.)

So, I think, we should turn our attention to the data. W_A has fewer commitments than W_T . But perhaps W_T has greater explanatory breadth and depth than W_A . And, if so, only a careful weighing can disclose whether to prefer W_A , or W_T , or suspension of judgment. There is *much* data to consider. Here are some of the things that have been claimed to be data *relevant* to the choice between W_A and W_T : the existence of causal reality; the shape of causal reality; the fine-tuning of our part of causal reality; the presence of organised complexity in our part of causal reality; the presence of living organisms in our part of causal reality; the presence of conscious organisms in our part of causal reality; the presence of rational organisms in our part of causal reality; the presence of intelligent organisms in our part of causal reality; the applicability of science to our part of causal reality; the applicability of mathematics to our part of causal reality; the presence of morally responsive organisms in our part of causal reality; the presence of aesthetically responsive organisms in our part of causal reality; the presence of normatively responsive organisms in our part of causal reality; the presence of a significant body of reports of religious experience in our part of causal reality; the presence of a significant body of reports of miracles in our part of causal reality; the history of religion in our part of causal reality; the distribution of suffering in our part of causal reality; the distribution of virtue and flourishing in our part of causal reality; the distribution of atheistic belief in our part of causal reality; the practical consequences of believing W_A or W_T ; the content of theories that seek to explain the distribution of religious belief in our part of causal reality; and so on.

Proponents of W_A will suppose that, when all relevant data is weighed, W_T does not have an explanatory advantage sufficiently large to outweigh the advantage that W_A has in virtue of its more minimal theoretical commitments. Conversely, proponents of W_T will suppose that, when all relevant data is weighed, W_T does have an explanatory advantage sufficiently large to outweigh the advantage that W_A has in virtue of its more minimal theoretical commitments. Of course, proponents of W_A and W_T *may* agree that, for a great many of the cases mentioned, there is no explanatory advantage to either side; and, more strongly, proponents of W_A and W_T *may* agree that, in a few cases, there is an advantage to the other side. However, it is clear that there are different *ambitious* strategies available on either side. Some theists might try to argue that, on each piece of data, W_T does better than W_A ; and some theists might try to argue that there is no piece of data on which W_A does better than W_T . Similarly, some atheists might try to argue that, on each piece of data, W_A does better than W_T ; and some atheists might try to argue that there is no piece of data on which W_T does better than W_A .

In what follows, I shall argue that none of the data that I mentioned two paragraphs back favours W_T over W_A ; I shall not, however, argue that any of this data favours W_A over W_T . In some cases, this leads me to disagree with what atheists and theists have said in earlier chapters of this book; in other cases, it leads me to agree with what atheists and theists have said in earlier chapters of this book. My arguments will, of course, leave it open that there is other data that favours W_T over W_A ; there is no way that I can consider all of the relevant data in the space allotted to this chapter.

1. *The Existence of Causal Reality*

Why is there a network of causes and effects? In principle, it seems that there are two ways that one might answer this question: (1) there is no reason why there is a network of causes and effects rather than no network of causes and effects (“brute fact”); and (2) there is a network of causes and effects because it is impossible that there not be a network of causes and effects (“necessary fact”).

If it is a brute fact that there is a network of causes and effects, then, *a fortiori*, W_A and W_T do an equally good job of accommodating this fact, since neither offers any explanation for it.

If it is a necessary fact that there is a network of causes and effects, then, *a fortiori*, W_A and W_T do an equally good job of accommodating this fact, since each claims that there is some initial part of causal reality that exists of necessity and enters into causal relations of necessity. If we suppose that causal reality does not involve an infinite regress, then, plausibly, W_T says that God exists of necessity and enters into causal relations of necessity; and W_A says that the initial singularity exists of necessity and enters into causal relations of necessity. In point of *explaining why* causal reality exists, neither view has an advantage over the other.

Some may say that there is a third way in which one might seek to answer the question: one might say that causal reality exists because it is good that it exists. I am happy to rule this suggestion out of court: the existence of causal reality cannot be explained by the goodness of its existence. But suppose I am wrong about that. Then, it seems, the explanation is equally available to W_A and W_T : it seems to make just as much sense to suppose that the initial singularity exists because it is good that it exists as it does to suppose that God exists because it is good that God exists. It is no greater cost to include the relevant claim in one view rather than the other.

2. *The Shape of Causal Reality*

Why does causal reality have the shape that it does? In principle, it seems that there are just two ways of answering this question: (1) there is no reason why causal reality has the shape that it does (“brute fact”); and (2) it is necessary that causal reality has the shape that it does (“necessary fact”). In principle, there are two shapes that causal reality might have: *infinite regress* and *starting point*. If there is an infinite regress, then atheist supposes that there is an infinite natural causal regress, and theist suppose that there is an infinite natural causal regress and/or an infinite non-natural causal regress. Whether it is a brute fact or a necessary fact that there is an infinite causal regress, there is no explanatory advantage to either side. If there is a starting point, then atheist supposes that causal reality begins with an initial singularity, and theist supposes that causal reality begins with God. Whether it is a brute fact

of a necessary fact that causal reality has a starting point, there is no explanatory advantage to either side.

It is important to recall that W_T and W_A are best worldviews. What stand they take on *brute fact / necessary fact* and *infinite regress / starting point* depends upon what views on these matters are best supported by the relevant data. Effectively, we are faced with two decisions about ‘adjustable parameters’ in the content of W_T and W_A ; however the chips fall, the explanation afforded by W_A is no worse than the explanation afforded by W_T .

3. *The Fine-Tuning of Natural Reality*

It is an open question whether our universe is part of a multiverse. There is currently no expert consensus—e.g. among cosmologists—on this matter. In order to simplify the coming discussion, I shall continue under the assumption—or, perhaps better, pretence—that our universe is the whole of natural reality. Under that assumption, the topic for discussion is the fine-tuning of natural reality.

In the current standard model of particle physics, there are twenty-five ‘freely adjustable parameters’. Of course, the current standard model is not final physics: it includes both general relativity and quantum mechanics, even though these theories are jointly inconsistent at sufficiently high energy levels. So it is not clear how confident we should be that final physical theory will contain so many—or even any—‘freely adjustable parameters’.

But let us assume—or, perhaps better, pretend—that there are. Moreover, let us also assume that—as is the case for the twenty-five ‘freely adjustable parameters’ in the current standard model of particle physics, if any one of these ‘freely adjustable parameters’ took a value only very slightly different from the value that it actually takes, then either our universe would have been very short-lived or else it would always have consisted of more or less nothing but empty space. That is to say: if the ‘freely adjusted parameters’ were not *finely-tuned* to the values that they actually have, our universe would not have contained atoms, molecules, proteins, cells, micro-organisms, plants, animals, humans, planets, stars, galaxies, galactic clusters, and so forth.

Does either W_A or W_T better explain the fine-tuning of ‘freely adjustable parameters’? For each of the ‘freely adjustable parameters’, the following is true: either its value is settled at all points in the causal order, or there is some point in the causal order at which there is a transition between the value’s not being settled and its being settled. If the value of a ‘freely adjustable parameter’ is settled at all points in the causal order, then either it is necessary that the ‘freely adjustable parameter’ takes the value that it does, or it is a brute fact that the ‘freely adjustable parameter’ takes the value that it does. Either way, there is no advantage here for W_A or W_T . (Note that ‘freely adjustable parameters’ are parameters that are ‘put in by hand’: their values are not determined by further theoretical considerations. It is consistent with a parameter’s being ‘freely adjustable’ that it takes the value that it actually takes as a matter of necessity.) If, however, the value of a ‘freely adjustable’ parameter is only settled at some non-initial point in the causal order, then, at the point where the transition occurs, there is a range of possible values that the parameter could take, and the adoption of one of those values rather than any of the others is simply a matter of chance. In this case, it is a brute fact that the parameter takes the value that it actually takes (rather than any of the other values that it might have taken). So, again, there is no advantage here for either W_A or W_T . (In the case of W_A , it might be something like this: there is a chance distribution associated with a

phase transition for the total state of the universe: when the phase transition occurs, the ‘freely adjustable parameter’ takes on one of the possible values that figures in the chance distribution. And, in the case of W_T , it might be something like this: there is a chance distribution associated with a particular divine action on the universe: at the point where the effect of the divine action occurs, the ‘freely adjustable parameter’ takes on one of the possible values that figures in the chance distribution. Note that neither case requires any assumption about the shape of the chance distribution; in particular, neither case requires us to assume that the chance distribution is flat.)

4. *Organised Complexity*

Why does our universe contain organised complexity? There are two cases to consider. On the one hand, it might be that, at every point in the causal order, it is settled that our universe contains organised complexity. In that case, it is either a necessary fact or a brutally contingent fact that our universe contains organised complexity. And, as we have already seen, both of these positions are available in equal measure to theists and naturalists. So there can be no explanatory advantage either way. On the other hand, it might be that there is a point in the causal order at which there is a transition from its not being settled that our universe contains organised complexity to its being settled that our universe contains organised complexity. In that case, it is simply a matter of chance that our universe contains organised complexity. And, again, as we have already seen, this position is available in equal measure to theists and naturalists. So the presence of organised complexity in our universe gives no explanatory advantage to either side.

5. *Living Organisms*

Why does our universe contain living organisms? Initially, one might be tempted to answer this question merely by appealing to the evolutionary sciences. Whether one is a best theist or a best naturalist, one accepts that there is a fully natural history that proceeds from earlier states in which there are no living organisms in the universe to later states in which there are living organisms in the universe. However, one might think that there is something incomplete about this explanation: while it is true that the evolutionary sciences trace the appearance and development of life in the universe, they say nothing about why those earlier states in which there were no living organisms were apt for the later appearance of life in the universe. Those who take this line will insist that a complete explanation of why the universe contains living organisms must have two parts: it must conjoin to the fully natural history of the evolutionary sciences a further explanation of why earlier states in which there were no living organisms were apt for the later appearance of life. But it should be clear enough how discussion of the further explanation goes: either it has always been settled that there will be states apt for the later emergence of life in our universe, or else there is a transition from a state in which it has not been settled that there will be states apt for the later emergence of life to a state in which it is settled that there will be states apt for the later emergence of life. Whichever way it goes, there is no advantage to theism or naturalism that emerges.

6. *Conscious Organisms*

Why does our universe contain conscious organisms? In order to answer this question, we need to think about what it is in virtue of which conscious organisms are conscious. A plausible view is that for organisms to be conscious just *is* for certain kinds of neural processing to be occurring in those organisms. Another—in my opinion less plausible—view

is that for organisms to be conscious is for them to be in states that are *emergent from* certain kinds of neural processing that occurs in those organism. A third—in my opinion even less plausible—view is that for organisms to be conscious is for them to be in states that are *merely correlated* with certain kinds of neural processing that occurs in those organisms. Whichever way we go, there are theistic and naturalistic versions of the account of what makes conscious organisms conscious. Consequently, no matter what turns out to be the best way to go, there is no advantage to theism or naturalism that emerges.

7. *Intelligent Organisms*

Why does our universe contain intelligent organisms? In order to answer this question, we need to think about what it is in virtue of which intelligent organisms are intelligent. The right answer to this question, I think, is that intelligent organisms are intelligent because they have central nervous systems attached to general purpose neural processing. Organisms like anaerobic marine bacteria are not intelligent; they do not have central nervous systems attached to general purpose neural processing. By contrast, organisms like *C. elegans*—a particular kind of roundworm—are intelligent; they do have central nervous systems attached to general purpose neural processing. Of course, *C. elegans* is not *very* intelligent; but it does make *decisions* about which gradients in its environment to follow on given occasions. Since the emergence of intelligent organisms in our universe falls under the account of the emergence of life in our universe, there is nothing more that we need to add.

8. *Rational Organisms*

Why does our universe contain rational organisms? In order to answer this question, we need to think about what it is in virtue of which rational organisms are rational. The [roughly] right answer to this question, I think, is that rational organisms are rational because they are engaged in certain kinds of neural processing that have been appropriately shaped by local, social and evolutionary history and that are appropriately causally related to the environments in which those organisms are located. Given that, for example, human reasoning capacities are a socially filtered mix of evolutionary adaptations and exaptations, the emergence of rational organisms in our universe falls under the account of the emergence of life in our universe: there is nothing more that we need to add.

9. *Applicability of Science*

What explains the success of science in explaining natural phenomena? Initially, one might be tempted to answer this question in the following terms. At least roughly, science is a collective enterprise of data-driven description, prediction and understanding in which universal expert agreement functions as a regulative ideal. Given this account of what science is, we expect that (a) reproducibility, parsimony and consilience are fundamental scientific values, (b) there are strict protocols governing scientific experimentation and both collection and analysis of data, and (c) there are significant institutions devoted to protecting the integrity of scientific investigation, publication, recognition, and reward. Plausibly, then, if anything is going to produce satisfactory explanations of natural phenomena, it will be science. But, it might be objected, this is not a complete answer to our question: we have still not been told why science does succeed. What is it *about the universe* that makes it amenable to scientific investigation? There are two cases to consider. Either, at every point in the causal order, it is settled that our universe is amenable to scientific investigation; or there is a point in the causal order at which there is a transition from our universe's not being amenable to

scientific investigation to its being amenable to scientific investigation. If, at every point in the causal order, it is settled that our universe is amenable to scientific investigation, then it is either a necessary fact or a brute fact that our universe is amenable to scientific investigation. And if there is a point in the causal order at which there is a transition from our universe's not being amenable to scientific investigation to its being amenable to scientific investigation, then it is simply a matter of chance that our universe is amenable to scientific investigation. No matter how it plays, there is no explanatory advantage to either theism or naturalism.

10. *Applicability of Mathematics*

What explains the applicability of mathematics to our universe? Let's cut straight to the chase. There are the same two cases to consider that there were in our discussion of the applicability of science to our universe. The upshot of the discussion is exactly the same. No matter how it plays, there is no explanatory advantage to either theism or naturalism.

11. *Morally Responsive Organisms*

What explains the presence of morally responsive organisms in our universe? Initially, one might be tempted to answer this question by pointing out that we should expect rational organisms to be morally responsive. Certainly, in the case of human beings, our rational capacities emerged in tandem with our moral capacities: we can see developing rational and moral capacities in our nearest primate cousins. Moreover, moral norms—like rational norms—are universal in human societies. For example, there is no human society that lacks a norm against killing: in every human society, killing is prohibited *except in special cases* (that might include, for example, self-defence, protecting kith and kin, fighting a just war, carrying out state-sanctioned executions of criminals, using animals for food, using animals for entertainment, abortion, euthanasia, and so on). Of course, there is disagreement about permissible exceptions: but that is just disagreement about special cases. The upshot seems pretty clear: the discussion of the presence of morally responsive organisms in our universe falls under the discussion of the presence of rational organisms in our universe.

I anticipate that some may insist that the important question about morality is not touched by the preceding discussion: what we want to know is how moral truth is established. Suppose we grant that is true that it is wrong to kill (except in special cases, if there are any). What makes it the case that it is wrong to kill? There are two cases to consider. Either, at every point in the causal order, it is settled that it is wrong to kill; or else there is a point in the causal order at which there is a transition from its not being settled that it is wrong to kill to its being settled that it is wrong to kill. If, at every point in the causal order, it is settled that it is wrong to kill, then either it is a necessary fact or a brute fact that it is wrong to kill. If there is a point in the causal order at which there is a transition from its not being settled that it is wrong to kill to its being settled that it is wrong to kill, then it simply a matter of chance that it is wrong to kill. However it plays, there is no explanatory advantage to either theism or naturalism.

12. *Aesthetically Responsive Organisms*

What explains the presence of aesthetically responsive organisms in our universe? Initially, one might be tempted to answer this question by pointing out that we should expect rational organisms to be aesthetically responsive. Certainly, in the case of human beings, our rational capacities emerged in tandem with our aesthetic capacities. Perhaps we might think that,

when compared to our moral capacities, our aesthetic capacities are more clearly exaptations; perhaps we might think that, in general, aesthetic norms are more parochial than moral norms. While this point might affect the value of further consideration of the question how aesthetic truth is established, it makes no difference to the conclusion at which we arrive. As was the case in the discussion of the presence of morally responsive organisms in our universe, the discussion of the presence of aesthetically responsive organisms in our universe is subsumed by the discussion of the presence of rationally responsive organisms in our universe.

13. *Normatively Responsive Organisms*

What explains the presence of normatively responsive organisms in our universe? What explains the capacity of human beings to respond to linguistic norms, or legal norms, or cultural norms, or the many other kinds of norms to which human beings are responsive? Here, again, I think that, in the light of the immediately preceding discussion, we can cut straight to the chase. The discussion of the presence of normatively responsive organisms in our universe can be subsumed under the discussion of the presence of rationally responsive organisms in our universe. There is nothing in the explanation of the presence of normatively responsive organisms in our universe that favours either theism or naturalism.

14. *Reports of Religious Experience*

What explains the content and distribution of reports of religious experience in our part of the universe? In order to answer this question, we need to think about the range of kinds of religious experience. (1) Some religious experience is generated by religious practice. This kind of religious experience is fully explained by the existence of religious organisations, practices, traditions, and the like. (2) Some religious experience involves particular kinds of responses to what is acknowledged to be the natural world. Of course, this kind of religious experience is patterned to time and place: religious response to the starry night sky or sunflowers, or cherry blossom, or totemic animals, or feelings of remorse or shame is very different in different cultures and epochs. This kind of religious experience is fully explained in terms of prior religious belief and prior religious expectations. (3) Some religious experience involves dreams and visions. The causes of dreams and visions are diverse. Some dreams and visions are induced by drugs, exercise, fasting, hypnosis, meditation, mental illness, music, near-death experiences, sex, and so on; others are not. Everyone knows that many dreams and visions provide neither information nor insight to those who have them. Moreover, everyone knows that many of the causes of dreams and visions produce states that are not cognitively reliable: many causes of dreams and visions issue in states that impair performance even on cognitively undemanding tasks. Given what is known about typical causes of dreams and visions, best theists and best naturalists should agree that dreams and visions are not reliable sources of information about their alleged contents. (4) Some religious experience is 'mystical', or 'sacred', or 'spiritual'. These experiences might be *ecstatic* ("possession by the divine", or *numinous* ("theistic encounters characterised by fear and compulsion"), or *unitive* ("evanescent, ineffable, passive, tranquil"), or *salvific* ("an accompaniment of liberation, or enlightenment, or rebirth"), or natural ("a sense of oneness with nature"). As with dreams and visions, much mystical experience is generated by conditions that are negatively correlated with performance on quite simple cognitive tasks. Even when this is not the case, mystical experiences does not favour either theism or naturalism. Best theists and best naturalists agree that mature cognitive science and evolutionary theory issues in the best unified explanation of a wider class of experiences that

include religious experiences: shivers down the spine, variations in mood and affect, feelings of being watched, intimations that we are looking at familiar things from completely new perspectives, and so forth.

15. *Reports of Miracles*

What explains the content and distribution of reports of miracles in our part of the universe? In order to answer this question, we need to think about the range of kinds of reports of miracles, i.e. of events that allegedly involve non-natural agents and/or the exercise of non-natural powers. Some reports of miracles concern the lives and deeds of central figures in particular religions. Some reports of miracles are woven into central religious texts. Some reports of miracles belong to historical religious traditions. Some new reports of religious miracles are made every year. Of course, there are lots of reports of other events and entities that are not supported by naturalistic science, e.g.: sightings of cryptids, reports of anomalous events; productions of conspiracy theories; affirmations of the virtues of alternative medicine; and so forth. The main contours of the explanation of the production and transmission of all of these kinds of reports is widely understood. Human beings are disposed to make false attributions of agency. Human beings are disposed to believe what they are told by those they take to be authoritative. Human beings aspire to be taken to be authoritative in some domains. Given all of this, there is bound to be utterance and uptake of falsehoods. While many falsehoods are not sufficiently memorable, some falsehoods are ready candidates for transmission: in particular, ‘minimally counterintuitive’ falsehoods can easily become entrenched in particular sub-communities or communities. By naturalist lights, non-naturalistic worldviews are all locked into competitive special pleading, each trying to claim greater explanatory breadth and depth on the basis of different applications of similarly questionable techniques to claims with very similar origins. Given all of this, it is very plausible that best naturalists and best theists will agree on uniform rejection of all reports of miracles and relevantly similar events not supported by naturalistic science.

16. *History of Religion*

What explains the historical and geographical diversity of religions in our part of the universe? In order to address this question, we need an account of what *religions* are. Roughly following Atran and Norenzayan (2004), I take it that religions are passionate communal displays of costly commitments to the satisfaction of non-natural causal beings and/or the overcoming of non-natural causal regulative structures resulting from evolutionary canalisation and convergence of (a) widespread belief in non-natural causal agents and/or non-natural causal regulative structures; (b) hard to fake public expressions of costly material commitments to the satisfaction of those non-natural agents and/or the overcoming of, or escape from, those non-natural causal regulative structures; (c) mastering of people’s existential anxieties by those agents and/or the overcoming of, or escape from, those non-natural regulative structures; and (d) ritualised, rhythmic, sensory coordination of all of the above in communion, congregation, intimate fellowship, and the like. Following much recent work in the cognitive anthropology of religion, I further suppose that the widespread belief adverted to in this definition is readily explained in terms of natural features of human psychology and sociality. Given this much, it is clear that there are no obstacles to purely naturalistic accounts of the historical and geographical diversity of religions. It is a plausible conjecture that best theistic and best naturalistic worldviews both accept this account; but, if so, there is no explanatory advantage that falls to either party. (Theists who want to give a special role to God in the foundation of their own religion cannot *improve upon* the purely

naturalistic explanation; at best, their explanation is no worse than the purely naturalistic explanation.)

17. *Suffering*

What explains the historical and geographical distribution of suffering in our part of the universe? Given the immense timescale for this suffering—perhaps 500 million years for animals; at least 20 million years for hominids; and at least 300 thousand year for *Homo sapiens*—it is very plausible to suppose that the best explanation is purely naturalistic: that suffering is the outcome of naturalistic evolution. It is a plausible conjecture that best theistic and best naturalistic worldviews both accept this account; but, if so, there is no explanatory advantage that falls to either party. (Theists who want to give a special role to God and/or comparatively recent generations of human beings in the distribution of suffering in our part of the universe cannot improve upon the purely naturalistic explanation; at best, their explanation is no worse than the purely naturalistic explanation.)

18. *Virtue and Flourishing*

What explains the historical and geographical distribution of human virtue and flourishing in our part of the universe? Given what we know about the history of human beings, it is plausible that there has been human virtue and flourishing for several hundred thousand years. Taking into account what we know about the ‘out of Africa’ migrations of *Homo sapiens* and the evolutionary origins of our species, it is very plausible to suppose that the best explanation of the distribution of human virtue and flourishing is purely naturalistic. It is a plausible conjecture that best theistic and best naturalistic worldviews both accept this account; but, if so, there is no explanatory advantage that falls to either party. (Theists who want to give a special role to God in the distribution of human virtue and flourishing cannot improve upon the purely naturalistic explanation; at best their explanation is no worse than the purely naturalistic explanation.)

19. *Distribution of Non-Theistic Belief*

What explains the historical and geographical distribution of non-theistic belief in our part of the universe? There are many great human civilisations that did not so much as countenance the existence of God. Taking into account what we know about the history of those human civilisations, it is very plausible to suppose that the best explanation of the distribution of non-theistic belief is purely naturalistic. It is a plausible conjecture that best theistic and best naturalistic worldviews accept this account; but, if so, there is no explanatory advantage that falls to either party. (Theists who want to give a special role to God in the distribution of *theistic* belief cannot improve upon the purely naturalistic explanation of the distribution of non-theistic belief; at best, their explanation is no worse than the purely naturalistic explanation.)

20. *Practical Consequences of Theistic Belief*

What explains the practical consequences of theistic belief? In order to answer this question, we need to have a good grasp of the practical consequences of theistic belief. In particular, we need a comprehensive survey of the kind of data that is collected in Paul (2005): data about relative societal dysfunction across populations with greatly varying degrees of theistic membership. If there are practical consequences of theistic belief, then those consequences

should show up in this kind of cross-population data about alcoholism, assault, burglary, consumption of pornography, divorce, drug addiction, incarceration, murder, obesity, poverty, rape, smoking, software piracy, suicide, teen pregnancy, and so forth. But, in fact, this kind of cross-population data is a wash: it paints no clear picture of any practical consequences of theistic belief. Taking into account what the evolutionary and social sciences tell us about people, it is very plausible to suppose that the best explanation of the practical consequences of theistic belief is purely naturalistic. It is a plausible conjecture that best theistic and best naturalistic worldviews accept this account; but, if so, there is no explanatory advantage that falls to either party. (Theists who want to claim special practical consequences for theistic belief cannot improve upon the purely naturalistic explanation of the data that we have; at best, their explanation is no worse than the purely naturalistic explanation.)

In the past few pages, I have argued that none of a wide class of data favours W_T over W_A . As I noted before I entered into this argumentation, there is nothing that I have said that rules it out that there is some other data that favours W_T over W_A . If it turns out that there is no data that favours W_T over W_A , then the argument for the superiority of W_A to W_T is an argument from point-by-point dominance: W_A has more minimal theoretical commitments than W_T , and yet it nowhere fares worse on the dimension of maximisation of explanatory breadth and depth. If however, there is some data that favours W_T over W_A , then the argument for the superiority of W_A to W_T must claim that maximising the trade-off between minimisation of theoretical commitments and maximisation of explanatory breadth and depth favours W_A over W_T .

Even if it is granted that W_A is superior to W_T , it might still be insisted that L_T is better than L_A : the best theistic way of life is better than the best naturalistic way of life. While there is some plausibility to the thought that the best way of life must embed the best worldview, it is not inconceivable that some will want to argue that, even if W_A is superior to W_T , L_T is better than L_A . In particular, some may wish to argue that, even if the superiority of W_A to W_T shows that there is something better about naturalistic *belief*, nonetheless L_T is better than L_A because there is something even better about theistic *desire, hope, faith*, and so forth.

Consider Pascal's wager. Pretend that, while $\Pr(W_A)$ is high, $\Pr(W_T)$ is low. Even so, provided that $\Pr(W_T)$ is finite and non-zero, the wager calculation tells us that we maximise expected utility by wagering on God. I think that, according to W_A , $\Pr(W_T) = 0$. (Why? Because I think that, according to W_A , it is impossible that there are gods. But—at least on the standard Kolmogorov account—anything that is impossible has probability zero.) So—even setting aside the many other serious objections to Pascal's wager—we do not have here a consideration that speaks in favour of L_T .

Consider James' wager. James thinks that 'our passionate nature not only lawfully may, but must, decide an option between propositions, whenever it is a genuine option that cannot by its nature be decided on intellectual grounds'. In his view, given that the question of the existence of gods cannot be decided on intellectual grounds, it is fine to accept the claim that there are gods on passionate grounds. But, if the argument given above is correct, it is wrong to suppose that the question of the existence of gods cannot be decided on intellectual grounds. If W_A is superior to W_T , then James' wager does not supply a reason that favours L_T over L_A .

What about appeals to *hope*? Hope for what? There is no difficulty in the idea that naturalists can lead virtuous, flourishing lives filled with buoyant hopes for their kin, kith, and the wider

social groups to which we all belong. When it comes to *purely natural* hopes—hopes that have to do entirely with what happens in the natural world—there is no reason to suppose that there is any advantage that accrues to theists. (It is not uncommon for theists to have a lower estimation of the virtues and values of the natural world than naturalists; consequently, it would not be surprising if naturalists commonly have more buoyant purely natural hopes than theists.) What about hopes that are at least partly about the non-natural? I think that, according to W_A , it is impossible for those who rationally embrace W_A to have desires or hopes that are partly about the non-natural. A practically rational agent who believes that it is impossible that p does not hope or desire that p : believing that it is impossible that p while hoping or desiring that p is straightforwardly practically irrational. If W_A is superior to W_T , then an argument for the superiority of L_T to L_A on grounds of hopes and desires is an argument for forming beliefs on passional grounds even when the opposing case has been made on intellectual grounds. Not even James was prepared to countenance this outcome.

In closing, I should make a couple of remarks about *rationality*. I have sketched an argument for W_A and L_A . I do not suppose that this argument is rationally compelling. As the earlier discussion of the weighing of worldviews and ways of life makes clear, there is no algorithm that delivers the result that W_A and L_A are superior to W_T and L_T . Rather, the weighing of worldviews and ways of life requires an enormous number of interrelated judgments. Moreover, it is common knowledge that there are sensitive, reflective, intelligent, well-informed philosophers who disagree about these interrelated judgments. It would be a mistake to take me to be arguing that, on pain of irrationality, everyone should weigh the considerations that I have been examining in the same way that I do. If we consider the distribution of rationality over those who think about the kinds of questions that we have been discussing, it is plausible to hold that professional philosophers, no matter what position they adopt, score highly on measures of sensitivity, reflectiveness, intelligence, informedness, and so forth. And it is simply common knowledge that professional philosophers occupy the full range of opinions that it is possible to take on questions about the relative merits of W_A and W_T , and L_A and L_T . As with most question in philosophy, it seems that there are two ways forward: either we all reasonably cease to make any judgments about the relative merits of W_A and W_T , and L_A and L_T , or else we all reasonably agree to disagree about those relative merits.