Chapter 4:

Knowing God Through Reason

FIRST DRAFT

[In the previous chapter we reviewed the sorts of theories that are currently influential in the disciplines of neuroscience and evolutionary psychology to explain the existence of religious behaviour and belief in humanity in general, and its persistence within modernity in particular. We saw how Materialists in these disciplines frequently jump from their favourite cognitive or evolutionary theory of religion to then say 'Now we've shown that God does not exist'. We then reviewed a range of theist neuroscientists, evolutionary scientists, and philosophers who respond that these anti-theist claims are philosophically and theologically naïve, not to mention simply outside the methodological capabilities of these disciplines. For instance, the results of cognitive and evolutionary research can equally be used to argue that humanity has evolved just the sort of cognitive equipment needed for relationship with a God who seeks to be known by, and be in loving relationship with, humanity. We then responded to the common claim that science explains everything, and thus there is no need for God.]

So now we come to the question of whether or not God actually exists. This chapter will cover a lot of ground, so it will be helpful if we first provide an overview of how the discussion will proceed. The chapter is divided into the following sections:

- *Is there evidence for the existence of God?* We review the traditional arguments for the existence of God – the Experiential, Ontological, Cosmological, Teleological, Intelligibility, and Positive Quality arguments. I conclude that, although certainly not all arguments succeed, a range of them do succeed at providing significant indirect evidence of God, analogous to forms of indirect evidence in both science and daily life.
- *What about the Multiverse?* We review proposals for the existence of countless universes and the implications of this for the existence of God, along with critiques of these proposals. The field is still young and chaotic, so I remain agnostic about the eventual outcome of such proposals (whether they will turn out to reflect reality or simply turn out to be complex mathematical fictions). Thus I suggest that Christian thinking proceed down two tracks until one is finally demonstrated as the actual reality – one track that

assumes multiverses are mathematical fictions (thus there is only one universe) and one that assumes some non-extravagant version of multiverses is possible as reality.

- *What sort of God do these arguments point to?* Some of the arguments for God point to a God who is Transcendent (Creator God), while others point to a God who is Immanent (God involved with humanity), yet all these arguments leave much that is unclear, not only for purposes of knowledge but also for purposes of religious life.
- *Teleology Revisited.* Here we return to the issue of teleology (inherent purpose or goal-directedness). I observe the distaste that scientists generally have for teleology in nature, yet here I propose a new argument – 'the argument from emergent teleology'. What then is the *telos* that emerges? The *telos* of the universe is this: *to provide the place and conditions in which loving beings can come to exist and flourish in loving relations with each other and with God*. I call this 'the love-*telos* hypothesis'. I add to this an enhanced argument from intelligibility.
- *Does God provide evidence for God's existence?* The arguments discussed so far are based on evidence that is simply available, but then we can ask, Does God *provide* any evidence as well? Following Paul Moser, I argue that God provides evidence that is not investigatively-neutral but rather which reflects God's morally-concerned character – namely lives that are changed to take on God's morally-concerned character, including love of enemy and love of neighbour, neither of which can be satisfactorily explained by evolution. This is called, using Moser's term, 'personifying evidence'.
- *What do these arguments achieve?* The outcomes of these arguments are, at one level, substantial even though indirect, yet at another level remain significantly vague, even with the enhanced arguments I have added with regard to intelligibility and teleology. So what do these arguments achieve? First, collectively they provide *significant plausibility* for an 'inference to the best explanation' case for belief in a Transcendent-Immanent 'Being' (or 'God', for ease of reference) – which is of value to believers, seekers, and doubters alike. Second, the Transcendent God arguments, including the love-*telos* hypothesis, are *attractional* – they attract people to seek this God further, to discover whether our knowledge and experience of this God can go any further than the level of general Transcendence-Immanence (with the vagueness which accompanies this level).

- *The desire for knock-down arguments.* If the arguments for God provide only significant plausibility (inference-to-the-best-explanation) rather than unambiguous certainty, then why does God not provide 'knock-down' (unambiguously certain) evidence? Four reasons are provided.
- *From evidence to encounter*. We observe a potential implication of the Immanence evidence, especially of the 'personifying' evidence, namely that God is a subject rather than an object. This motivates further investigation into what it means to understand God as subject rather than object, which is that God would desire to be encountered and known by other subjects. This theme, of knowing God as subject, will lead us into the topic of our next chapter.
- *The elusiveness of God.* We conclude this chapter (as with all chapters in Part II) with insights into the apparent elusiveness or hiddenness of God. We have already discussed one reason that God can seem elusive, namely that only significantly-plausible rather than knock-down (unambiguously certain) arguments are possible from the available evidence. Then in this section we shift our focus to four biases held by many Materialists that make God appear more hidden than God really is.

Now on to the discussion.

Is There Evidence For the Existence God?

Alan*: Through history there have been numerous arguments made for the existence of God, and in my estimation none of them have ever succeeded – they all proceed from some sort of problematic logic, particularly drawing false implications from various observations of the world. In short, the God-project has been a failure.*

Our response to Alan's comment here will take the duration of this book, but here we will engage in some ground-clearing by surveying the classical arguments for the existence of God. The point of this, though, is not actually to analyse each of the many arguments, but rather to ask: What do such arguments actually accomplish?

There are, though, three preliminary points to note. First, each argument comes in a variety of versions, but here we will provide only a simplified, rather than nuanced, description of each. Second, concerning language: for this discussion it might be more appropriate to use a term such as Higher Being, or Superior Existence, or Ultimate Mind, or some other appropriately

vague terminology – but for ease of discussion I will simply use the term 'God'. Third, we need to identify an important distinction between *arguments* for (or against) God, and *evidence* for (or against) God. If God exists, 'evidence' refers to phenomena that are caused by God, and which we as humans are able to detect. On the other hand, 'arguments' are the logical-linguistic efforts we make to identify implications or draw conclusions about possible evidence. In other words, arguments are proposed for or against the existence of God based on whatever evidence there might be.

Now let's get on with surveying the various arguments for God. Remember, we are not going into the details of each argument, we are simply providing a quick overview of the approach taken by each argument, in order to discuss what they achieve.

Experience arguments. Arguments 'from experience' come in a variety of forms, although in general they go something like this: I have had a particular significant experience; I cannot adequately explain it other than by attributing the cause of the experience to the action of some greater/higher/divine power; this power must be God; therefore God exists.

Such arguments describe a God who intervenes in human affairs, who gives experiences of various kinds. Indeed, arguments from religious experience to the existence of God are among the most common arguments for the existence of God among believers, and may also be the most successful arguments for God if one goes by anecdotal evidence, such as the conversion stories told by converts. It is useful though, to distinguish between two types of arguments from experience – *a priori* and *a posteriori.* The former (*a priori*) means that the argument is not derived from observation or experience but rather simply occurs within the mind of the individual. These *a priori* arguments are understood as the action of God directly upon the person, and are often identified as inspirational or mystical experience. These include such as experiences as peace, purpose, ecstasy, guidance, trust, hope, strengthening of faith, or oneness with God. On the other hand, *a posteriori* means that the argument is based on experience or observation of the world. The *a posteriori* argument from experience is usually known as 'the argument *from miracles*'. Miracles are often understood as events that take place in space-and-time but which are considered impossible by the normal laws of physics and chemistry. People claim to observe or experience such 'impossible' events; therefore these events must be brought about by something or someone not constrained by the laws of physics and chemistry; this

someone or something can only be God – therefore God exists (or *probably* exists – an important distinction we will discuss below).

Ontological arguments. This is another type of *a priori* argument, and probably the most difficult of the various arguments to follow! But here's a brief account to get some flavour of it. 'Ontology' comes from the Greek word *ontos*, 'of that which is'. In other words, 'ontology' is the analysis or description of the constituent nature of anything – 'What constitutes the nature of "X"?' The ontological argument for God begins with an aspect of the ontology (the nature or being) of God, namely that God is perfect – or, more precisely, that the concept of 'God' includes God's perfection. The argument then proposes that perfection entails (necessarily includes) actual existence. Consequently, the concept of God necessarily includes God's actual existence – therefore God exists. This argument may seem difficult to follow – indeed, even philosophers have difficulty with it. Nonetheless it is an ancient argument, and one that has continued to have its supporters, including such figures as Kurt Gödel, Alvin Plantinga, and Katherine Rogers.

Cosmological arguments. The remaining arguments are *a posteriori* – derived from observation or experience. Many people find these the most intuitive type of argument for God. They go something like this: Every existing thing I've ever encountered has a cause; the universe (the *kosmos,* to use the Greek term) exists; therefore the universe likewise has a cause; a cause must be greater than the thing caused; therefore the cause of the universe must be the Creator of the universe; the Creator is God – therefore God exists (or God probably exists).[1] (In the case of multiverses, the same pattern of reasoning is applied.)

Notice how the cosmological argument is *a posteriori*: it is based on experience or observation of the world (such as observing that 'Everything I've ever encountered has a cause') combined with some pattern of informal logic (in this case, employing analogy to suggest that

[1] To illustrate how simplified are the descriptions I am providing here of each argument, here is just part of a more sophisticated cosmological argument, by philosopher Alexander Pruss: '*Premise* 1) For every contingently true proposition, *p*, there is a possible world *w* that contains the propositions *p*, *q*, and that *q* explains *p*. *Premise* 2) *p* is contingently true and there is no explanation of *p*. Assumption for indirect proof.… 7) *Conclusion*: It is not the case for any proposition *p* that *p* is contingently true and there is no explanation of *p*.' So there you go – the existence of God is demonstrated! However, since only trained philosophers can really follow such an argument, most of us have to make do with much more informal versions such as those I am providing here.

the universe is probably like every other thing I've ever encountered so that it too must have a cause).

Teleological arguments. The term 'teleological' is derived from the Greek word *telos*, meaning purpose, goal, or objective. Teleological arguments are a particular form of cosmological argument. They are often called 'design' arguments because an aspect of their argument includes observing possible design in the world.[2] There are two design arguments which have proven most influential, the first of which is the 'argument by analogy': it begins by observing that the created things with which we are familiar in life show order and complexity, because they are designed with a purpose; it then concludes that therefore there must have been a Designer that created the world with the order and complexity we see in it. That designer must be God – therefore God exists (or God probably exists).

William Paley (1743-1805) provides the most famous example of this, using the analogy of a watch: we can see that a watch is designed (it shows order and complexity); we know the design was motivated by a purpose – namely to tell the time; and we know that the design and its motivating purpose were caused by a creator – namely the watch maker who designed and made the watch. Then we observe that the natural world likewise shows both order and complexity; therefore, by analogy, the natural world must be designed by a Designer too (or at least by a Mind); this Designer (or Mind) is the Creator; the Creator is God – therefore God exists (or probably exists).

Ironically, such arguments by analogy often fail to make the obvious next step of saying what the universe or world was designed *for*. For a design argument to be a true teleological argument, it needs to say what the *telos* actually is. When this step is omitted, it is not truly a teleological argument.

---

[2] Here we should note a common confusion around so-called Intelligent Design arguments for God. These are arguments, made by figures such as Michael Behe and William Dembski, that biology displays 'irreducible complexity' – that random mutation and natural selection are not adequate to explain how complexity has arisen in biological organisms, and thus an Intelligent Designer who intervenes in nature must be the cause of such biological complexity, whether this Designer is the God of the monotheistic religions or not. Because of the similarity of terms, people often assume that design arguments are the same as Intelligent Design arguments, but such is not the case; so-called Intelligent Design arguments are just one form of design argument – many other design arguments exist. In other words, one can accept various design arguments for an intelligent designer of the universe, namely God, while not accepting that particular form of design argument called the Intelligent Design argument.

The other predominant form of the design argument is the so-called 'Fine-tuning' argument, which works not by analogy but instead by observation-and-direct-inference ('inference to the best explanation', as it is called, which does not require the analogy step of the previous argument – we will discuss the type of argument further below). Interestingly, this argument has only gained prominence in the past couple decades because during that time scientists have observed that the universe and our planet seem 'finely-tuned' to support life – numerous aspects of the physical and chemical conditions undergirding the universe and our planet are 'tuned' so precisely that just a slight change in one of these conditions would result in the extinction of life (or its non-emergence in the first place); so the most probable explanation of this is that the universe has been designed by a Designer to be 'finely-tuned' in this way – therefore God probably exists.

The argument from fine-tuning is explicitly teleological – at minimum it identifies the *telos* of the universe as the creation and sustaining of carbon-based life within the universe; however, a move is often made to invoke the 'anthropic principle', meaning that the *telos* of supporting life is actually a *telos* of supporting specifically *human* life (*anthropos* in Greek), not just biological life in general. (Some readers will be aware that the multiverse hypothesis is said to undermine the Fine-tuning argument; we will discuss this further below.)

Intelligibility arguments. Through the remarkable development of mathematical and scientific methods of knowledge, humanity has gained a vast understanding of the universe and of life. This means that physical existence (from the quantum level to large-scale structures in the universe) is deeply intelligible – the physical realm can be known and understood by rational human minds (at least very extensively so). Is it mere coincidence that humans have this ability? John Polkinghorne (among many others) thinks not: 'One could say that physics explores a universe that is shot through with signs of mind. Thus the laws of physics seem to point beyond themselves, calling for an explanation of why they have this rational character….The deep intelligibility of the cosmos can itself be made intelligible if behind its marvellous order is indeed the mind of its Creator. The theist can say that science is possible precisely because the universe is a creation and scientists are creatures made in the image of their Creator'. Importantly, the implication here is that the Creator intended the universe to be intelligible, and thus created in such a way as to ensure that humanity possesses the cognitive ability to gain understanding of the universe and the world.

Positive-quality arguments. An important class of arguments arises from observing positive, 'higher', qualities in life that contribute significantly to human well-being, such as morality, goodness, love, and beauty. These arguments suggest that such qualities, along with our cognitive abilities to recognise them, do not arise on their own but rather are God-caused, thus God exists. For instance, one version of the moral argument is that offered by C.S. Lewis: people everywhere, across countless cultures, believe there are objective (universal) moral laws; upon examination, we see that objective natural laws are not like the objective laws of nature or objective natural 'facts'; therefore the existence of these objective natural laws needs some explanation; a strong explanation of their existence is that they are implanted in humanity by an intelligent and moral mind; this intelligent mind is God – therefore God exists (or probably exists).[3]

A similar line of reason is taken with beauty, which, like morality, goodness, and love, cannot come out of nowhere, so the immense beauty in this world must arise from some ultimate source – therefore God exists (or probably exists). Interestingly, arguments from beauty are less frequently made by philosophers and theologians than the other positive-quality arguments, yet they seem intuitive and widespread among people at large. This may be seen, for instance, in those moments when people gasp in awe in the face of immense beauty in nature, murmuring under their breath about how incredible God must be, thereby reflecting some intuitive logic that the existence of such beauty points to God. If some version of the argument succeeds, it implies that beauty (as with the other positive qualities) is a quality intentionally put into creation by God for humanity, and by implication that our cognitive ability to appreciate beauty is also implanted by God.

Notice that, in terms of logic, there are two types of *a posteriori* arguments for God: there are those that observe some feature of the world or universe, then analogically propose God as their cause (namely the cosmological arguments and those design argument which do not identify a *telos* to the design); and there are those that observe some feature of the world or

[3] An example of a more philosophical version is that provided by Robert Adams: i) Moral facts exist; ii) Moral facts have the properties of being objective and non-natural; iii) The best explanation of there being objective and non-natural moral facts is provided by theism; iv) Therefore the existence of moral facts provides good grounds for thinking theism is true. (Of course, as with any deductive argument, the success of the conclusion (point iv) rests on the success of the arguments for the premises (points i, ii and iii).)

universe, then directly propose God as the best explanation without employing analogy (such as the argument from Fine-tuning, the argument from intelligibility, and the positive-quality arguments such as the argument from morality).

Worldview arguments. Thus far we have been discussing individual arguments for the existence of God. Nonetheless, for many theists their belief is based not solely on particular arguments but rather on a comprehensive 'worldview' or 'grand narrative' which they find persuasive. Such a worldview includes the arguments for God, but includes much more, such as theistically-shaped values, purposes, and interpretive perspectives. Such a worldview is formed over time, not only through rational arguments for God, but also through intuitions and life experience. Such a worldview is considered persuasive because it is considered *coherent* (not self-contradictory), it provides significant *explanatory power* (able to provide comprehensive and satisfying explanations of what we observe about life, the world, and the universe), it is *meaningful* (emotionally-owned and gives personal purpose), and is *fecund* (creative and fruitful in producing worthwhile new ideas and/or practices). Thus a worldview is 'sense-making' – it enables us to interpret and make sense of our life experiences and observations of the world, illuminating for us the multifaceted qualities of reality and human existence. To paraphrase C.S. Lewis, 'I believe in the sun not only because I can see it, but because by its light I can see everything else'. This is the power of a worldview.

Of course, no worldview, whether theist or Materialist, is perfectly coherent or explains everything, for every worldview has holes and inconsistencies, features about reality and experience which it is unable to cleanly accommodate or explain. This is why we keep investigating, why we keep seeking answers for the parts of our worldview that still seem unsatisfactory, and why we revise parts of our worldview in light of new ideas or information. Nonetheless, many theists have reached the form of theism to which they hold because, through many years of examination, investigation, testing, revision, and experience, it has come to provide them with a satisfying and persuasive worldview or narrative by which to live, even though there are likely portions of their worldview that are not yet as satisfactory as they would like. So theistic worldview arguments go something like this: 'Theism of a particular sort provides me with a coherent, comprehensive, meaningful, and fruitful worldview or narrative of reality and meaning, which I find more persuasive than alternate worldviews or narratives, and to which I can commit my life. Therefore I find my belief in God is confirmed as plausible and

persuasive by virtue of the overall coherence, explanatory power, meaningfulness, and fecundity of this theistic worldview, even though it does not yet have all its holes 'filled in'.'

***Connie**: This is all very interesting, but let's get back to the arguments. Only a very small proportion of people know how to access formal arguments for God, let alone know how to follow them in their most rigorously technical forms. If God exists, presumably this God would not arrange it such that people would only come to belief if they could master the formal debates!*

For most people, the arguments are not formally spelled out but rather are intuitive. In other words, we can distinguish between *intuitions* (such as a beautiful sunset that evokes a gut response of 'Isn't God amazing!') and *propositional arguments* (of the sorts described above, especially using extensive conceptual analysis and syllogistic logic). These intuitions can be understood as extensions or implications of belief in God as cognitively 'properly basic' (as we discussed in our previous chapter); however, if asked for an explanation or clarification of these intuitions, people's explanations or descriptions can be quite vague. Importantly, the propositional arguments are often constructive attempts to formalize these intuitions, to enable them to be articulated more clearly and coherently.

Unsurprisingly, not all people are persuaded by the same arguments. We can compare, for instance, Francis Collins, a prominent geneticist and former head of the Human Genome Project, and philosopher Stephen T. Davis. Both these figures value the various arguments for God, but each finds one type of argument particularly persuasive. For Collins, it is the moral argument: '[T]he Moral Law still stands out for me as the strongest signpost to God'. For Davis, it is the argument from experience: '[T]he reason I am a theist…has a great deal to do with experiences I have had that I interpret in terms of the presence of God – experiences I find myself interpreting in terms of divine forgiveness, divine protection, divine guidance….That is why I claim to know that God exists'. Davis also finds a version of the ontological argument persuasive, whereas Collins never mentions the ontological argument. So theists themselves will attribute varying degrees of persuasiveness to the various arguments.

It is also unsurprising that none of these various arguments for God go unchallenged – by both atheists and believers alike. For instance, Thomas Aquinas (who lived in the 13th Century and whom many consider the most famous Christian philosopher in history) provided versions of the cosmological and teleological arguments, but rejected the ontological argument. Some

Christians argue against the possibility of miracles and thus against the miracle argument. The fact that a wide variety of arguments are made does not mean that they are all valid, though neither does it mean that if one fails then they all fail – some may succeed even though others do not. Indeed this is my own view, though, in an example of what the philosopher W.V.O. Quine called 'the linguistic [intellectual] division of labour', I will leave the details of most of these arguments to others who can do the job more ably than I (see the narrative bibliography for some sources). Nonetheless, one of these arguments – the teleological argument – is sufficiently crucial to our discussion that later in this chapter we will return to look at it more closely.

So now we have seen: that an evolutionary predisposition to postulate transcendent agency seems hardwired into our brains; that we have the necessary cognitive abilities to detect, even if only indirectly, such a transcendent agent; and that there are a wide range of reasons, both intuitive and explicitly-argued, for belief in a transcendent-immanent agent to be reasonable and plausible. This is a considerable collection of factors leading us towards belief in some sort of God. Indeed, it is no wonder that our natural human intuition is towards such belief. Here we might quote Friedrich Nietzsche, one of the most virulently anti-Christian writers of the modern age:

> How strong the metaphysical need is [within the minds of people], and how hard nature makes it to bid a final farewell [to metaphysical belief], can be seen from the fact that even when the free spirit has divested itself of everything metaphysical, the highest effects of art can easily set the metaphysical strings, which have long been silent or indeed snapped apart, vibrating in sympathy…He feels a profound stab in the heart and sighs for the one who will lead him back to his lost love, whether she be called religion or metaphysics.

How strong the lure of God is, even to someone like Friedrich Nietzsche! Yet given that our cognitive structures are built as they are, and given that there is such a range of reasons to believe in the existence of God, this lure is not the least bit surprising. What *is* surprising is that some people work so darned hard to resist it!

Detour: Many Universes

Alan*: This is all very nice about our world and universe, but in recent years we've come to know that ours is not the only universe – that there are countless other universes, indeed*

multiverses of universes, and they have always existed. This effectively eliminates the so-called 'fine-tuning' argument for God, so there really is no need to believe in God.

It is now a widely-held belief among theoretical physicists that there exist countless universes 'parallel' to ours. There are three main theories about these so-called multiple-worlds. One is the *multiverse* proposal, which is a mathematical implication of cosmological inflation (as we described in Chapter 2). Another is Hugh Everett's *many-worlds* theory, which is too complex to explain here, though we should note this theory arises not from cosmology but rather from quantum mechanics. In both of these theories, there are a gargantuan number of universes, with new universes and new multiverses constantly coming into existence. Third is a version of so-called 'string theory', namely *M-Theory*, which proposes that reality exists in 10 or 11 dimensions, and consequently there are about 10^{500} 'branes' (equivalent to universes) out there. That is a 10 followed by 500 zeros – an astronomically large number!

On some versions of these theories, the laws of physics and chemistry remain fundamentally the same throughout all universes, while in other versions the laws of physics need not be fundamentally the same throughout – in fact, the laws could differ quite dramatically. These various proposals lead multiverse proponents to propose a range of conceptually-bizarre possibilities, such as 'If it *can* happen, it *does* happen, and it *has* happened'. This means, for instance, that there is another universe somewhere in which I exist at this moment but in which I am having a shower instead of typing on this computer; there is another universe somewhere else where Hitler still lives; and so on.

An important implication of these theories is that they eliminate the fine-tuning argument for God. This is because the physical conditions that seem so finely tuned for life in our universe are instead just a function of statistical probability: so many universes actually exist, with so many different physical laws, that it is statistically probable that a universe with our combination of physical laws would come about. So God did not set the physical conditions of our universe – rather, they emerged through statistical probability.

Yet not everyone is convinced by such proposals, seeing a range of problems with them. The problems arise because these concepts remains so conjectural, as illustrated by Stephen Hawking who has recently rejected his earlier proposal for multiple universes within blackholes, now transferring his hope for multiverses into M-theory. Since the arguments for multiverses are purely mathematical, they will never be observable, testable, nor able to make predictions, which

renders these arguments metaphysical rather than scientific. Moreover, thus far there are so many multiverse models proposed that the mathematical inconsistency between models strains credulity – there appears to be more chaos than progress among the models. Indeed, even prominent Materialists like Paul Davies and Roger Penrose, figures who can handle the complex multiverse mathematics, are sceptical about the *physical* reality of multiverses.

On the other hand, some of these theories might not be so off the wall. While multiple-worlds theory remains highly theoretical, multiverse theories do seem to be an unavoidable implication of inflation, which, though 'merely' a mathematical theory, does solve a number of significant problems in understanding the origins of the universe. *If* inflation is true (and we still do not know that it is, although at present the mathematics does look persuasive), then it seems that some sort of multiverse reality exists, even if not in the more bizarre forms that some have advocated.

What implications do these parallel universe proposals have for theism? Some figures like Stephen Hawking cry out that such proposals demonstrate the universe's spontaneous self-creation – and thereby disprove the existence of God. Nonetheless, many others (including various Materialists such as Steven Manly and Roger Penrose) have observed that such proposals do not necessarily disprove God's existence. Indeed, even if some form of multiverse argument does succeed, the claim made by John of Damascus (d.749) still holds: 'God does not belong to the class of existing things….God is above all things, even above existence itself'. Since multiverses *are* the class of existing things, then the implication of John's claim is that God does not belong to the multiverses but is 'above' them. As others have pointed out, if God wants to create multiverses, then that is God's prerogative.

Nonetheless, the various multiple-worlds proposals are deeply weird – do they really exist? At this point in time the answer is in flux, even among Christians. Here we can cite two contrasting Christian scholars – Don Page (University of Alberta, Canada) and George Ellis (University of Cape Town, South Africa). Both are Christian scholars who publically affirm their faith; both have high-level expertise in the theoretical mathematics of physics and cosmology, and understand the complex mathematics of multiple-worlds theories; both are widely published in top-level international journals – indeed both have published papers with Stephen Hawking. And yet they differ on the reality-status of multiple worlds. Page is sympathetic to the possible reality of what could be called 'non-extravagant' multiverse proposals (that is, proposals which

avoid some of the more extravagant claims such as 'Everything that can exist has existed and will exist'). Indeed, Page's views are similar to a number of other theists who argue that 'a multiverse could reveal an even more grand design of the universe', thereby keeping open 'the possibility that the entire multiverse was designed at a higher level, say by a benevolent Creator'. In contrast, Ellis gives no room for the possibility of multiverses as physically real. He objects that multiple-world proposals are unprovable by observation or experiment, that they are therefore philosophical/metaphysical proposals rather than scientific, and that 'the value indicated most strongly by [the best current] data is k = +1, indicating finite closed space sections rather than an infinite multiverse'.

We can see this same variation among other Christian thinkers. British microbiologist-turned-theologian Alister McGrath, in his recent book *A Fine-Tuned Universe: The Quest for God in Science and Theology*, acknowledges multiverse hypotheses but finds them unpersuasive; so McGrath proceeds with an engaging exploration of various chemical, biological, and evolutionary aspects of fine-tuning, along with their implications for Christian natural theology. On the other hand, Canadian philosopher Klaas Kraay sees in multiverses help for several classical problems in theistic belief. For instance, with regard to the old question of whether this universe is the best that God could come up with, Kraay proposes the Theistic Multiverse: 'If theism is true, we should *expect* the actual world to be a *multiverse* comprised of all and only those universes which are worthy of creation and sustenance…[and that] this multiverse is the unique best of all possible worlds'. Indeed, 'an unsurpassably powerful, knowledgeable, and good deity will create *every* universe that is worth creating'. Furthermore, Kraay and Page (among others) see help for the problem of evil – 'the multiverse theodicy'. This can come in various forms, but Page's version is this: 'that God created all universes that are better to exist than not to exist. So rather than God's just creating one or more universes that have no evil, one might imagine that God thought it better to create all universes that are better to exist than not to exist. In other words, instead of minimizing evil by avoiding creating any universes with evil, God might be seeking to maximize the net good over evil.'

So at our current place in cosmological knowledge, a Christian view of matters can go either way – that there is only one universe (the one we find ourselves in), or there are indeed multiverses of some form. So how then do we proceed? Do we proceed to think on the basis of mathematically-hypothetical multiple-worlds, or do we proceed on the basis of a single universe?

I suspect it is probably best to explore both directions at the same time, until such time as one clearly emerges as the definitive reality. Thus the Ellis-McGrath approach is one path, and the Page-Klaas approach is another. For purposes of our unified story, I will tend to proceed as if the multiverse hypothesis is true in a non-extravagant form. If indeed the whole multiverse idea turns out to be false, then our story is easily revised to include the conventional fine-tuning argument, such as pursued by McGrath. If it turns out that multiverses of some sort do exist, then our unified story will already have taken this into account.

What Sort of God Does All This Point To?

If God exists, then God has not brought the multiverses, or the universe, or the world, or beauty, or morality, or intelligibility, or love, into existence in order to provide evidence for God's existence – rather, God has brought these features of existence into existence for their own inherent purposes and value. It turns out that they do have the secondary benefit of serving as evidence for the existence of God, but that is not the primary reason for their existence. In effect, the various arguments surveyed above do not reflect evidence intentionally provided by God, rather they reflect evidence that is simply available as a result of God's creative activity.

On closer examination, we find these various arguments pointing to two different aspects of God, thus amounting to two different types of arguments. Some of the arguments point to God as a *transcendent* Creator – 'uncaused, beginningless, changeless, immaterial, timeless, spaceless, and unimaginably powerful', as William Lane Craig has put it. It is this attribute of being 'unimaginably powerful' that enables God to also be Creator. The arguments that point to God as transcendent I will call 'Transcendent God' (or 'Creator God') arguments. These include the ontological and cosmological arguments, along with those design arguments that fail to identify the *telos* of the design. If God exists, the implication is that such arguments are responding to available evidence of divine transcendence.

Another aspect of God identified through some of these arguments is God as *immanent*, as a Creator that is involved in the world and even in human lives. We can call these 'Immanent God' (or 'Involved God') arguments, which include the teleological arguments that identify a *telos*, along with the arguments from experience, miracles, intelligibility, and positive-qualities in the world such as love, morality, and beauty. If God exists, the implication is that Immanent

God arguments are responding to available evidence of divine immanence, of divine involvement in the world and in human lives.

It is important to note, however, what both types of arguments do *not* do. Ontological arguments tell us that God is perfect (or maximally great, or maximally good, or maximally excellent), yet the content of this perfection or 'maximalness' is empty. (For instance, 'maximally good' provides no content to the meaning of 'good' – meaning for the concept of 'good' has to be imported from somewhere, such as from personal experience or scripture.) Cosmological arguments tell us that God is Creator, but that is all – they do not tell us whether this Creator created physical reality out of nothing (as in Christian tradition) or just created order out of pre-existing unordered matter (as in Greek, Hindu, and Ancient Near Eastern traditions, thus making God more of a Shaper than actual Creator), nor whether God remains involved or not in sustaining the universe once it has been created or shaped. Teleological arguments tell us that God intentionally designed the universe with some sort of purpose, and thus God is a Rational and Purposeful Designer-Creator. However, and ironically, most teleological design arguments fail to indicate what the actual *telos* of the universe is. Although fine-tuning teleological arguments do give us a *telos*, namely for the universe to contain life, nonetheless it fails to tells us anything of the *telos* of the life itself – is the purpose of this life just to provide God with the fun of creating it in order to toy with it, as something for God to do while passing the time?! So Transcendent God arguments on their own leave us unclear on whether the Creator has any sort of continuing relationship with the ongoing existence of the creation; and they also leave us with a God indifferent to humanity, uninvolved in the world in *human-related ways* such as providing meaning in life, providing moral formation, evoking worship, transforming hearts, minds, or will, or transforming communities.

Indeed, many philosophers through history have thought that, if we can know anything at all of God, then a Transcendent God indifferent to humanity is the most we can know or hope for. This view is conventionally called 'deism', as opposed to theism which holds that God is somehow relationally involved with humanity. Yet arguments that stop at the deist God (God as merely transcendent) could very well be missing evidence that is available for the theist God (God as also immanent), evidence which indicates that God purposively created the universe in such a way as to ensure that qualities such as intelligence, miracles, morality, goodness, love, and/or beauty, could emerge or be brought about.

Consequently, from a religious perspective we are further ahead with Immanent God arguments (that God is both transcendent and immanent) than with just Transcendent God arguments (that God is transcendent but not immanent). And yet we see that Immanent God arguments are also limited, in that they do little to fill in the content of these various positive qualities, remaining deeply vague in their implications, leaving many questions unanswered. What counts as goodness, or beauty, or love? What experiences, including purported miracles, might or might not be of God? What limits might there be (such as cognition, wisdom, or morality) on the use of our intelligence? What priorities might exist for how we apply our intelligence? Beyond the general phenomena of morality, does God prefer or prescribe any particular morality? Are there aspects of God's nature that we *miss* in observing the world around us? If so, how extensive are these aspects that we miss?

These are huge questions that are unresolvable by Immanent God, or generic theist, arguments. Indeed, as Aquinas said, 'The truth about God as far as reason can discover… [includes] the admixture of many errors' – which is to say that the nature of God proposed on the basis of reason (that is, by the various arguments for God) will contain both truths and errors. With so much left vague and open by the evidences, it is little wonder that so many different 'gods of the philosophers' – from Shankara's *Brahma* to Aristotle's *Unmoved Mover* to Hegel's *Geist* – have been proposed through history, nor is it any surprise that so many religions and 'spiritualities' have emerged through history, as efforts to give clearer shape to the nature of this Transcendent-Immanent Being.

A further challenge exists in discerning the right balance between transcendent and immanent aspects of God. For those evidences that lead us to a Transcendent God, there is the danger of being satisfied with these evidences alone. An inclination to be satisfied with a Transcendent God may indicate the sort of person who seeks only morally-neutral evidence for God, in order to protect themselves from any possibility that further evidence could make a moral or existential claim on their life. Being satisfied with just Transcendent God evidence misses the need to remain alert for possible evidence that God might also be immanent. Certain other evidences lead us to an Immanent God, though here the danger is the opposite – missing the need to remain alert for possible evidences that point to God's transcendence, a failure which can lead us to domesticating God in our own image and for our own purposes. Historically, keeping both these together in right balance has been a difficult task, with the history of religious

and philosophical thought littered with those who have fallen off one side or the other – to an overly-transcendent God (such as Kant and classical deists, thereby losing humanity-involved aspects of God) or to an overly-immanent God (such as Hegel or 'process' thinkers, leading to pantheism or panentheism whereby God is somehow dependent on the universe).[4]

Given that there are signs of both divine transcendence and divine immanence, it is reasonable to suspect that there is some clue by which to discern the right balance between them. Where then to look for this clue? The answer is found, unsurprisingly, in God's *telos* of the universe – namely *love*.

Teleology Revisited

A cornerstone of Materialism (whether modern or pre-modern) is its *dys*teleological worldview – that the universe has no purpose, that the world is devoid of *telos*. The infiltration of this view into Christian thinking was, as we saw in Chapter 3, an important part of the Great Divorce. Consequently, a significant part of overcoming the Great Divorce rests on re-establishing teleology. Indeed, this is precisely a situation in which the *principle of right perspective* is required (which we examined in our previous chapter).

I wish to suggest that one way to discern the right perspective is through the principle of emergence. This is an idea that first arose in the 19th century, though for most of its history it has had a mixed reception among scientists due to valid critiques of its formulation. Nonetheless, greater precision in its formulation has been possible through recent advances in science, and thus has been gathering strength over the past couple decades. The basic idea is that aspects of reality with novel properties emerge from already-existing less-complex aspects of reality. Some

[4] There are large questions at this point about what sort of Transcendent-Immanent God this is. For instance: Why a good God instead of an evil God? Or why not two Gods, one good and one evil, as in Zoroastrianism? Or why not a Kantian Transcendent-but-not-Immanent God? Or why not something leaning the opposite direction of an overly immanent God, such as the panentheism of Philip Clayton? Or why not a generic 'Supreme Spirit' such as held by Keith Ward or Karen Armstrong? Or why not a transcendent metaphysical non-god, such as the modern platonisms of Martha Nussbaum or Roger Penrose? This is a very important set of questions, but I will not address them directly here because my focus in this study is on the relationship between Christianity and modernist Materialism, whereas these questions concern the relationship between Christianity and other metaphysical and religious worldviews, and thus would be the subject of another book to supplement this one. Nonetheless, a range of points I make in the subsequent chapters will have implications for these issues.

interpreters propose only a weaker form of emergence, contending that the direction of influence remains one way – from the less complex to the more complex (this is called 'upward causation'). Others propose a stronger form, in which the influence is two-way, such that the more complex level, once it comes into existence, can affect the less complex level(s) from which it arose (this is called 'downward causation'). Crucial to this process is the flow of 'information' from one level to the next, both upward and downward.

There are countless examples in nature of more complex forms (inanimate and animate) emerging from less complex forms. For example, the emergence of chemical properties from simpler molecular structures, the emergence of electrical conductivity from magnetic fields, the emergence of multicellular life from single cells, the emergence of countless neurological properties such as intentionality or pleasure or sensation, the emergence of particular behaviours from neurological properties, and so on – the list is long and probably not exhaustible. It is also important in this to notice that each emergent level of reality requires a different set of analytical tools to be understood: physics gives rise to chemistry, yet chemistry needs different investigative tools than does physics; chemistry gives rise to biology, so biology needs different investigative tools than chemistry; and so on through the various levels of complexity, up to the human brain – or even mind.

The question now arises: can we speak of 'purpose' or *telos* in this emergence process? Physics and chemistry do not employ inherently teleological language to describe the forms of emergence seen in these disciplines, but it is often observed that once we get to the level of biology, where we see the evolutionary drive for genes to reproduce themselves and for animals to reproduce and seek survival, scientists start using the language of purpose at both the genetic level and the phylogenetic (animal forms) level. This gives rise to a whole debate in a discipline called 'philosophy of biology' about whether it is appropriate to interpret biological processes and behaviours as teleological.[5] The predominant tone amongst biologists today is that the use of teleological language is idiomatic, no different than saying 'The sun is setting' when everyone knows that the sun does not set at all – this is just a manner of speaking. So in fact, teleological

[5] Furthermore, a trait's past function does not necessarily explain its current function, for a trait may have had one function in the past, but in response to random environmental changes evolved to serve a new function. The result of such observations is that *telos* gets replaced with function.

language in biology is really just describing *functions* – the function of this or that aspect of genetic or phylogenetic existence.

Although I remain unconvinced by the attempt to reduce teleology to function, I will make my case not on interpretive grounds but on empirical grounds – namely the phenomenon of 'convergence'. Simon Conway Morris, a paleobiologist at Cambridge University (especially well known for his pioneering work on the famous Burgess shale fossils), speaks of 'the sheer ubiquity of evolutionary convergence' – that is, 'the propensity for biological forms (and examples of this extend from molecular systems to social systems) to navigate repeatedly to the same solution'. For instance, the camera eye has independently emerged on at least seven different occasions in evolutionary history, as seen in the evolutionary history of such diverse life-forms as cephalopods (squids, octopi), vertebrates (from mice to blue whales), snails, and jellyfish, among others. Countless other examples can be cited, and not just among animals but among plants and microbes as well. Perhaps the most significant example of convergence is the range of life-forms that have independently developed intelligence and emotions through the course of evolutionary history. One of the most intriguing examples is the high intelligence of cephalopods (octopi, squid, cuttlefish), with brains remarkably similar to mammals, including humans – lateralized with folded lobes in two hemispheres, connected through a bundle of nerve-fibres, with the hemispheres divided into regions or lobes.

In other words, since life-forms keep running into similar survival and reproductive challenges, and since in responding to these challenges such life-forms are constrained by the physical and chemical realities of existence on our planet, we can hardly be surprised if the same or similar solutions repeatedly arise within evolution. So evolution, like all sciences, exists with deeper constraints which make prediction possible. This view is, however, in contrast to the commonly-held view that evolution is completely random and accidental. This is reflected in Stephen Jay Gould's famous (and widely-accepted) comment in *Wonderful Life* (1989) that if we were to 'replay life's tape' from the Cambrian explosion (beginning about 530 million years ago when a vast expansion of biological complexity and diversity took place) to the present, the forms of life that would emerge this time around would be vastly different than those which exist today, and would include nothing remotely human. Indeed, on Gould's view, even the eukaryotic cell and the nervous system, so crucial to animal and human life today, would probably not emerge, for something completely different would emerge instead.

Morris calls this a conceit, for it ignores the widespread phenomenon of convergence. In other words, 'however many times we re-run the tape, we will still end up with much the same result. This must include intelligence'. Both the 'transformations that are central to the evolutionary process and the end-products are far more predictable than is often supposed. In brief, ultimately divergence is always local, convergences are global…. Evolution effectively discovers the inevitable'. What is the deeper structure that imparts such predictability to the evolutionary process, including increasing levels of complexity, including consciousness? The answer appears potentially teleological, for the process of evolution repeatedly brings about convergent biological patterns that lead to ever-greater complexity and levels of consciousness, along with similar evolutionary outcomes. As Conway points out, 'far from its myriad of products being fortuitous and accidental, evolution is remarkably predictable'.

By the time we reach animal brain-states, especially humans, we can clearly observe actual teleology (not just function) in the form of personal purposes (such as purposively pursuing one type of career over another, or purposively choosing one form of entertainment over another on a weekend evening). Indeed, beyond individual purpose we can even speak of collective purpose.[6]

So physicists and chemists do not observe signs of teleology; biologists do see possible signs of teleology, particularly in the phenomenon of convergence; and psycho-social scientists clearly see teleology, namely purposeful brain-states and purposeful actions in animals and

[6] A further level of teleology may be identified by the various academic and professional disciplines. Each discipline within the natural sciences, human sciences, humanities and professions has its methodologies and standards, which are intended to provide knowledge through their respective fields of inquiry. Such methods are developed over time, and thus become part of the conventions, indeed requirements, of the appropriate discipline. These methods include such practices as hypothesizing, testing, correcting, interpreting, critiquing, peer reviewing, and so forth. These become abstracted – they are recorded in texts, protocols, learning resources, and the like – and collectively provide a corpus of methodological principles for their respective disciplines, which practitioners are expected to apply in practice. Such abstract principles and methodological corpuses are inanimate yet *possess purpose* given by their originators, namely to be used skilfully and appropriately in order to produce knowledge or other valued outcomes in their disciplinary fields. These abstract principles and methodological corpuses exist independent of individual brain-states (that is, in their various texts, protocols, and disciplinary documents). In effect, after they have been approved and implemented, these abstract principles and methodological corpuses are purposeful *on their own*, independent of the individual brain-states that brought them into existence, and thus they add a level of emergent teleological existence beyond that of human purposeful brain-states.

especially humans (these including countless sorts of purposes beyond just survival and reproductive success). Materialists, though, try to avoid any hint of teleology like the plague, without admitting that their dysteleological bias is a philosophical (metaphysical or aesthetic) assumption of Materialist faith, not a scientific claim.

The Love-*Telos*

***Agnes**: What, then, is the supposed telos? After all, while 'purposive brain-states and purposive behaviours' may be observed in animals and humans, such general 'purposiveness' seems far too vague or diffuse a telos. For instance, purposive* mundane *brain-states and behaviours (such as thinking 'I want to eat a hamburger' and then purposely behaving in such a way as to eat a hamburger) hardly seem sufficiently teleological to serve as a telos for the universe!*

Agnes's intuition here is right on – a more substantial candidate for this *telos* seems necessary. From among this wide variety of 'purposive mind-states and purposive behaviours', is there a particular mind-state and behaviour which emerges as the actual *telos*? There seems no way for Materialism to answer this; however, for Christianity the answer is readily at hand – it is that complex of brain-states and behaviours Christians call *love*. Herein lies the *telos* of the universe: *the universe exists to provide the place and conditions in which loving beings can come to exist and flourish in loving relations with each other and with God.*[7]

We might ask why so few people figure this out. Here an analogy can be made with Newton's laws of motions, as we discussed in the previous chapter. We recall that the physical laws underlying motion (at least in our universe!) were hidden under observed physical phenomenon – phenomena which were misinterpreted until the right perspective was discerned by Newton. So too the law of *purpose*, or *teleology*, underlying the universe (or multiverses) is likewise hidden under the observed physical phenomena – phenomena misinterpreted once again by those who deny any underlying teleology in the physical and chemical world. Misinterpreted,

[7] It should be noted that the love-*telos* argument still works even if the emergent-teleology argument is denied; the emergent-teleology argument strengthens the love-*telos* argument, but the love-*telos* argument does not fail if emergent teleology is denied. Thus Materialists who deny emergent teleology still have to contend with the love-*telos* argument because it remains a coherent proposal with significant explanatory power, as we will see through the cumulative argument of this book.

that is, until the right perspective is discerned in another Newton-like moment, namely that the universe/multiverses *does* have a *telos* – which is, as we have just said, to provide the place(s) and conditions in which loving beings can come to exist and flourish in loving relations with each other and with God.[8]

When our earlier observation of emergent teleology is combined with love as the *telos* of the universe, we gain a significant new argument from design for the existence of God. Materialism denies teleology as existent let alone necessary, and yet we have just seen the biological inevitability of convergence, including the repeated emergence of such neurological features as intelligence and emotions in diverse species on our planet. We can, then, propose the following explanation for this: there has been a teleological movement designed into the physics of the universe right from the time of the Big Bang (or designed into the multiverses), namely the inevitable emergence, through cosmological and evolutionary processes, whether in just one universe (ours) or in numerous universes, of the sorts of biological-neurological capabilities needed for the emergence of loving creatures. Since *telos* – purpose or objective – can only exist with intentionality (I believe even Materialists would agree to this), the simplest and most obvious explanation for the emergence of intelligence, emotions, and love in the natural world is that a Creator-Mind intentionally designed this love-capability, this *telos*, into the initial physical conditions of the universe (or multiverses). Indeed, there is plenty of evidence that this has succeeded, for there has come to exist in our universe at least one location – Earth – in which much love can be found. (Perhaps there are other locations too – we do not yet know, but there is no reason to rule out this possibility.) Humans are the most obvious locus of such love, and I would argue the most profound locus of such love as well, but given our increasing awareness of the emotional life and intelligence of higher-order animals, animals too would be a locus of such love.

As an aside, we might wonder why it has taken so long for loving beings to emerge in the universe – why would God not choose a faster method? After all, by the standards of space-time it has taken billions of years to achieve love in the universe (from the Big Bang to the emergence of loving life on Earth or elsewhere). Nonetheless, if God is outside of time and space, and if, as

[8] Here an important implication arises. If the *telos* of everything is love, then the *telos* of the disciplines (the natural sciences, human sciences, humanities, and professions) is not ultimately knowledge but rather love! We will explore the radical implications of this in Chapter 10.

scripture says, 'With God a day is like a thousand years, and a thousand years are like a day' (2 Ptr 3:8), then this apparently long time is, from God's perspective, not long at all. Beyond this, I believe the answer lies in the concept of 'natural freedom', which we will examine in a later chapter.

***Alan**: I see two problems here. First, there is plenty of hatred and suffering in this world too. So how do you put together a love-concerned God with all the hatred and suffering? Second, the multiverse hypothesis could eliminate your love-telos proposal.*

First, the fact that there exists immense hatred and suffering does not negate the fact that there is plenty of love in the world too – the existence of hatred and suffering only points out that, in addition to there being much love and goodness, there is also much hatred and suffering. For now our point is simply this: here on Earth we have ample empirical evidence that the teleological objective of the universe is being fulfilled – there is immense love in our world. Nonetheless, the question of suffering is crucial, so we shall explore it in greater depth in a later chapter.

As for the multiverses, we have earlier seen how conjectural they are, whereas the incredible range of love-conducive properties of the universe (and our world) is not conjectural but well established by each of us in the process of living! Nonetheless, let us conjecture for a moment with the multiverse proponents – in which case it turns out that the multiverse hypothesis *supports* the love-*telos* argument. From a multiverse perspective, there is an infinite number of loving beings in the multiverses; this will continue to be the case when the Solar System, including our planet, burns up; so there is, and will continue to be, an infinite and eternal amount of evidence to confirm the love-*telos* hypothesis! In other words, there is nothing within the multiverse hypothesis that negates a multiverse version of the love-*telos* – that God launched the multiverses to provide conditions for the emergence and sustaining of loving beings.[9]

[9] Currently, the love-*telos* proposal 'fits' better with a Shaper God (who shaped existing energy and matter into the love-creating multiverse phenomenon) than a Creator God (who created energy and matter from scratch), since part of the point of multiverse hypotheses is the aesthetic desire to eliminate the possibility of a beginning to time and space. Nonetheless, there is sufficient conceptual space at the theoretical level for a Creator God rather than a Shaper God. For instance, there are currently so many mathematical models proposing such a wide variety of multiverses (including models which conflict with each other), that a correction in an existing model (perhaps due to correcting for selection bias in favour of a no-beginning algorithm), or even a completely new model, may emerge that permits or suggests an original singularity or some other form of 'beginning'.

We can put this another way: our earlier agnosticism on whether multiverses exist in reality is maintained by the love-*telos.* If there are no multiverses, then God, in God's own wisdom and power, brought about the universe as the sufficient context by which to fulfill the love-*telos*, whether this be on Earth alone or elsewhere in the universe as well; however, if indeed multiverses do exist, then God, in God's own wisdom and power, brought about the multiverses as the means by which to fulfill the love-*telos*.

***Alan**: Since we are talking about a biologically-based telos here ('loving beings'), there is an important argument against 'design arguments for God' that we could call 'the argument from biological inefficiency'. Biological inefficiency, such as we see in vertebrate eyes (including human eyes), provides an example of inefficient, and thus poor, design. Ergo, there is no God, or at least God is such a poor designer as to not be worth bothering with.*

Alan's observation here is widely made. As one anonymous commentator stated on a Scientific American blog: '[T]here are so many examples of "poor engineering" in living organisms that there is little excuse for a hypothetical "intelligent designer"'.

The love-*telos* argument has the added advantage of eliminating some irrelevant arguments on both sides of the fence. Alan has pointed to the example of biological inefficiency in vertebrate eyes. It is well known that vertebrate eyes are much less efficient in structure than the eyes of cephalopod invertebrates (squid, cuttlefish, and octopi): vertebrate eyes have their photoreceptors pointing to the back of the retina, requiring light to pass through blood vessels and ganglion cells, thereby inhibiting the image; cephalopods have their photoreceptors directly in the line of sight, providing much clearer sight. Nonetheless, some Christians, such as Michael Denton, have responded by trying to demonstrate that vertebrate eyes only *appear* biologically inefficient, but that in fact they are indeed biologically efficient, even more efficient than cephalopod eyes.

Unfortunately, not only do eye scientists find Denton's effort strained (pun intended!), but such a move implicitly assumes that the case for an intelligent designer requires eliminating biological inefficiency. This, though, is a needless assumption, and indeed Denton's whole effort is rendered unnecessary when the divinely-intended *telos* is understood to be love rather than biological efficiency. This and other examples of so-called poor engineering or poor design are not poor engineering but rather just the result of random mutation and gene drift, which can be understood as a divinely-intended natural processes (we will see more about this in the chapter

on freedom). In other words, examples of biological inefficiency are not failed attempts by God to design biological efficiency, since biological efficiency was never God's objective. When the *telos* is seen to be love, rather than biological efficiency, then the success of the design for *telos* is seen not in biological efficiency but rather in the vast amount of love evidenced in the world.

Indeed, there is another item of love-*telos* evidence. Here we can invoke the earlier 'argument from intelligibility'. Various Materialist scientists have commented that the vast amount of knowledge produced by science is unexpected, even surprising, given that, as Michael Brooks put it, 'our brains evolved for survival on the African savannah, not to ponder life, the universe and everything'. One could easily argue that our brains have continued to evolve since leaving the savannah, in order to cope with survival under other conditions as well. Nonetheless, here we see an *a priori* assumption under the guise of a scientific statement, namely that the evolutionary teleology of human brains is survival on the savannah. From a theistic perspective, there is no surprise at the level to which humanity's cognitive capacities have evolved, for their cognitive capacities have evolved not just for purposes of learning how to survive for the sake of survival and reproductive success (which requires nothing close to the cognitive capacity we have), but rather to fulfill humanity's *telos*, namely to enter into ever-deeper love of God and of each other.

This *telos* results in increased reasoning skills and increased cognitive capacity for at least two reasons. First, to provide increased knowledge of God's universe, which in turn evokes ever-greater awe, praise, and love of God (exemplified by the quote from Copernicus in the last chapter). Second, to enable more expansive forms of love-of-neighbour through being able to use this knowledge-capacity to the benefit of others (such as developing advances in health-care, devising more just economic systems, etc). In effect, we can suggest that God intended humanity to evolve the cognitive abilities needed to render the world intelligible. Which is to say that humanity has evolved the cognitive abilities needed for knowledge of the world as useful in the service of love, for both acts of love and for an epistemology of love (as described in the previous chapter). Indeed, as human brains continue to evolve, new dimensions of what this means will be emerge. For theists, it is then an unsurprising, though awe-inspiring, phenomenon that the universe is intelligible to humanity.

Does God Provide Evidence?

We have been discussing *teleology* as part of our wider discussion about knowing God through reason. Most of the arguments for God which we surveyed above are based on evidence that is simply *available* – it is there for us to figure out. But is there any evidence God would actively *provide*? This question reflects an important distinction between two ways in which we encounter evidence – there is evidence that is simply *available*, and there is evidence that is *provided*. To illustrate this distinction, let us imagine a police detective who comes upon a dead body, next to which lies a handgun with fingerprints on it. The handgun and fingerprints are potential evidence to explain why there is a dead body. Note that no one has intentionally provided this evidence (the murderer left the gun behind by accident); the evidence is simply available, at hand, there at the crime-scene for the detective to make sense of. On the other hand, evidence can be intentionally provided. For instance, should the murderer be apprehended and brought to trial, the prosecutor will provide the handgun and fingerprints to the court as evidence against the murderer.

Given this distinction, what kind of evidence might God provide us concerning God's existence and nature? An answer may be deduced. If our inferences about the available evidences are true, then we know that God is concerned to bring about love, along with 'positive qualities' that devolve from love, such as morality, wisdom, goodness, and beauty. Yet why would God be concerned to bring about such qualities? The most probable explanation would be that these qualities *reflect God's own character* – which, for ease-of-reference, we will call God's *morally-concerned* character. Thus it seems likely that God would choose to provide the sort of evidence *that fits with God's morally-concerned character and teleological purposes*.

This may seem almost too obvious, but it is a possibility too-often overlooked by those looking for evidence of God on their own terms. Here I am referring to a certain sort of person who *discusses*, even in great detail, whether or not God exists, but *who is not truly seeking* to know whether or not God exists – such as the person looking for a 'morally-neutral' God who will make no moral claim on their life, or the person looking for a dramatic 'showman' God, as if a dramatic show of overwhelming divine power will convince them of God's existence. Let us call these people 'pseudo-seekers'. A classic example is Yuri Gagarin, the Soviet cosmonaut who was the first person to orbit the earth. Upon returning to earth, Gagarin famously, and flippantly, told the media, 'I didn't see God out there' – as if he had genuinely thought God

would be visibly located in low-orbit space, and as if he had been genuinely disappointed to not find God visibly located there.

For such people, it does not occur to them that the sort of evidence that God would provide would be in accordance with God's purposes, not in accordance with their own purposes which are often really just aimed at 'disproof'. Indeed, what if God does not want to play these games? If God exists, but if God is not concerned to provide the sort of evidence people are looking for by virtue of their prior bias towards the type of God they seek (or do not seek), then indeed God may have good reason for not playing their games, for not conforming to the expectations of doubting pseudo-seekers. Given God's morally-concerned purposes, it is not surprising that God would not play Gagarin's insincere games. Pseudo-seekers think they are putting God under question; however, as Paul Moser notes, such biases could very well hide that they are in fact putting themselves under question before God.

Since it is quite conceivable – arguably even probable – that God would most likely provide evidence that conforms to the nature and purposes of God, then God will be strongly disinclined to provide morally-neutral or dramatic-showman evidence. Yet even for the countless *genuine* seekers in the world, God might not provide them either with the sorts of evidence for which they are seeking – if the evidence they seek, such as certain proof, is not in conformity with God's character and purposes. In other words, God may have very good reasons for not providing the sort of evidence which leads to knock-down proof or 100% certainty, precisely because knock-down proof does not accomplish God's purposes. (In fact, we will identify four such reasons later in this chapter.) What then could God's purposes be, and what sorts of evidence would God seek to supply, in light of these purposes?

Let us return to our suggestion above, namely that God's purposes arise from God's morally-concerned character. Let us identify the core quality of this moral concern as *love* – for love ('freely-chosen self-giving to another for their benefit') provides the core divine quality out of which arises both God's moral character and God's teleological purposes. In effect, love exists simply because it is the nature of God.

From this we can deduce at least one sort of evidence that God could provide in light of God's morally-concerned loving character and purposes – namely *lives* that have experienced and display the morally-transformative loving character and purposes of God. Moser calls this *personifying evidence* for God, because it personifies God's loving and moral character,

purposes, and action in the lives of people. In effect, God provides transformed lives as evidence for God's existence, character, and purposes. Consequently, those who seek evidence of God need to look for evidence of divine-love transformation in people's lives. As Moser puts it, personifying evidence

> will fit with the reality of a God who aims not simply to inform humans [of God's existence] but [instead aims] primarily to draw them non-coercively into taking on, or personifying, God's perfect moral character, in fellowship with God. Part of this divine aim would be to have humans become bearers of God's moral character in a way that brings God's distinctive presence nearer to others.

In pursuing such a possibility, let us set the standard high from the start. Let us imagine as difficult a case of personifying evidence as possible. If we imagine hatred as our most venial human quality, then overcoming such hatred would provide an example of such a life. Perhaps no greater example of this exists than loving one's enemy. An enemy has caused immense pain and suffering, evoking our natural human response of seeking revenge, of wanting to harm them back even harder than the harm they caused – indeed, even to destroy the other who caused such immense harm. Enemy-love, on the other hand, acts not to achieve their destruction but to achieve their healing, restoration, and well-being – which requires forgiveness as the gateway to this healing and restoration. If there exist examples of people being transformed from hearts of deep vengeance to hearts of equally-deep forgiveness, seeking healing and wholeness for their enemy, such would be an example of personifying evidence.

Indeed, there are such examples in history. When we look for such examples, a particularly well-known example quickly comes to mind, namely Jesus of Nazareth – who was hideously tortured and killed for no crime, yet in the midst of his suffering was able to forgive his torturers and killers. In effect, Jesus' enemy-love is *personifying evidence* that God has provided to humanity of God's existence. Furthermore, so remarkable was this act of forgiveness that others who heard it passed it on orally, then others eventually recorded it to ensure it would be passed on – all this despite the depth of its moral challenge to our opposite human inclinations. (Unsurprisingly, I will argue later that Jesus' life amounts to much more than personifying evidence for God, but this is all that we need to claim at this point of our discussion. Furthermore, I am not arguing here that Jesus is the only example in history of enemy-love, for certainly he is not.)

The next level of personifying evidence would be neighbour-love. This idea was first promoted in the book of Leviticus about 1500-2500 years ago (depending on how one dates the first five books of the Hebrew scriptures): 'Do not seek revenge or bear a grudge against anyone among your people, but love your neighbor as yourself' (19:18). In Leviticus, this applied to one's literal neighbors; however, Jesus broadened this through the Parable of the Good Samaritan to include loving neighboring people-groups (tribes, nations, what-have-you), especially antagonistic people-groups. (Jesus, a Jew, made the hero of the parable a Samaritan. To call Samaritans and Jews enemies at the time would be overly strong, but the two groups were certainly antagonistic to each other.) Freely-chosen self-giving to benefit people from neighboring antagonistic people-groups is intentionally within the breadth of what Jesus meant by 'love your neighbor'. Again, given how contrary this is to human nature, examples of such attitude and behaviour can constitute personifying evidence for God.

Given God's loving-relational purposes, we may infer that within these purposes it is God's desire for people, individually and collectively, not simply to be persuaded to believe in God's existence by personifying evidence, but to *take on God's moral character*, indeed to take on God's moral character in a way that draws others to that character. Thus, as Moser suggests, the sort of person (or, we should add, community) most able to recognise and receive personifying evidence is the person (or community) who is *willing to become such evidence themselves*. This moves us from 'objective' personifying evidence (enemy-love and neighbour-love which we see in others) to 'subjective' personifying evidence, in which even our own lives, individually and collectively, are willing to be transformed into lives of enemy-love and neighbour-love. At this point we reach an interesting implication, namely that in becoming such evidence themself, such a person has thereby experienced God – just the sort of experience which now enables them to deploy the argument from experience!

***Alan**: Here's the flaw in your 'personifying evidence' proposal: such moral character can be explained in another way, other than being the action of God in the lives of people. Specifically, such moral character can be seen as the product of nature (such as genetically-produced altruism) and nurture (such as a loving home where the parents modeled exemplary love). So lives that are loving and self-giving are not necessarily evidence of God's existence or character, but simply the product of genetics and environment – nature and nurture together.*

We will look at this in more depth in our later chapter on love. Nonetheless, for now we will simply say that part of how God has ensured humanity has the ability to love is through both our genetic structure and environmental factors. God, though, has not provided just two aspects to how we form the ability to love, namely nature and nurture; God has provided three aspects – namely nature, nurture, and *God's own gracious action in the lives of people*, action which can bring about greater love and purpose in their lives, including the practice of enemy-love and neighbour-love, than would be possible with just nature and nurture. (We will look more closely at the concept of divine action in a later chapter.)

What do These Arguments Achieve?

Agnes*: We've spent a lot of time reviewing different types of evidence 'available' and 'provided'. Once all these arguments have been made, what has really been accomplished? Some people are persuaded, others less so or not at all. The very fact of a diversity of responses does seem to count against the arguments for God – if they are so persuasive, then surely more people would find themselves persuaded by the arguments.*

There are two different aspects to Agnes's question, 'What do the arguments really accomplish?' One aspect we could call 'the degree of *persuasive success'* aspect. In other words, 'What proportion of people who encounter such arguments are actually persuaded by them?' To answer this would require some sort of quantitative social science survey, which would be interesting but beyond our scope here. The other aspect of her question we could call 'the degree of *logical success'* – and this is a matter which we need now to address in some detail – from which I will suggest that the arguments achieve two significant effects.

First, even if not all the particular arguments succeed, collectively the breadth of arguments provide *reasonable plausibility* – that belief in God is both reasonable and plausible. To see this we need to observe that arguments of any sort (not just those concerning God) come essentially in two logical forms – namely *inductive* and *deductive*. Inductive arguments only provide some degree of probability for their conclusion, whereas deductive arguments provide 100% certainty (or 'proof') for their conclusion.[10] It is not surprising that theistic apologists

[10] Some readers may find further explanation helpful. Deductive arguments are concerned to provide proof – that is, to provide a conclusion that is unambiguously certain. Such certainty depends on the second (minor) premise of the argument being contained within the first (major) premise. For example: Premise 1) All bachelors are male; Premise

would want to use deductive arguments – if their conclusions are 100% certain, amounting to proof, then how could anyone help but accept that God exists?! Indeed, many of the arguments for God are deductive. Here is an example of a deductive cosmological argument:

Premis 1. Some of the objects in the world are in motion.

Premis 2. Whatever moves was set in motion by something else.

Conclusion 1: Therefore, either there is a First Mover (who is self-moving) or there is an infinite regress of movers.

Premis 3 (=Conclusion 1): There is a First Mover (who is self-moving) or there is an infinite regress of movers.

Premis 4: But there cannot be an infinite regress of movers since there would then be no time at which the objects would ever be set in motion.

Conclusion 2: Therefore, there exists a First Mover.

If the premises are true, then the conclusion is valid – *et voila*, the existence of God (or at least a First Mover) is proven.

Other arguments for God, however, are not deductive but rather inductive, meaning they claim not proof (absolute certainty) but rather probability – 'It seems to me that the most probable explanation for the existence of phenomenon X (love, beauty, intelligibility, whatever) is God'. Of course, degree of probability is hard to gauge, as there is always a significant subjective element to determining such probability. Consequently, some arguments use a formal probability calculus (usually Bayes' theorem) to argue that there is a greater than 50%

---

2) Bob is a bachelor; Conclusion (Proof): Bob is male. If the premises are true, then the conclusion is certain. Inductive arguments, on the other hand, do not have their minor premise contained within their major premise, therefore their conclusions cannot be unambiguously certain, even if both premises are true. The following is an example of an inductive argument: Premise 1) A study was done of all the raccoons in my city, and 20% of them were found to be rabid; Premise 2) There are raccoons in my neighborhood; Conclusion: Therefore, it seems likely that 20% of the raccoons in my neighbourhood have rabies. Note that the Conclusion does not *prove* that 20% of the raccoons in my neighbourhood have rabies; it only suggests that this seems likely. Whether or not the rabies rate in my neighborhood is *actually* 20% will depend on a variety of factors. For instance, perhaps the original survey of the city included one area with a disproportionately high rate of rabies that skewed the overall city-wide rate, and it turns out my neighbourhood rate is actually only 12%; or perhaps most of the rabid raccoons in my neighborhood were recently exterminated so that in fact the current rate in my neighbourhood is only 3%. So the conclusion of an inductive argument is only a matter of some degree of probability or judgement, not a matter of certainty or proof.

probability that God exists. (Bayes was an 18th century English mathematician and Presbyterian minister.) There can also be inductive arguments that claim less than 50% probability – thus making the weaker argument that God possibly, rather than probably, is the cause of some phenomenon, and thus possibly exists.

Most probability arguments, though, use less-technical logics such as 'best fit', 'cumulative case', or 'inference to the best explanation' arguments. For instance, Gregory Ganssle agrees with anti-theist Richard Dawkins that evolutionary natural selection seems to 'fit' better with atheism than with theism; nonetheless, Ganssle believes there are a number of features of the world that fit better with theism than atheism, and so on balance theism seems more likely than materialism.[11] 'Cumulative case' arguments draw together a range of factors which possibly point to the existence of God, but which collectively make a much stronger case for God: 'It seems to me that various *a priori* beliefs and *a posteriori* observed phenomena (including 'best fit' observations) considered individually might not be persuasive on their own, but when considered all together (or cumulatively), provide good reason to believe that God exists'. This is the approach taken by the Oxford philosopher Richard Swinburne, who concludes 'On our total evidence theism is more probable than not.' (He adds that 'when we take into account the detailed historical evidence of the life, death, and resurrection of Jesus, the probability that there is a God becomes very much greater.')

I would contend that there is no way to assign degrees of probability or possibility to arguments for or against the existence of God. Indeed, even Bayesian calculations are subject to subjective factors. Consequently, both the 'for' and 'against' sides have to employ forms of argument such as 'best fit' or 'cumulative case' forms that amount to plausibility rather than possibility/probability – though certainly one can intuitively distinguish between an argument being 'highly plausible', 'moderately plausible', or even 'mildly plausible'.

Some may see 'inferred plausibility' (as opposed to high probability) as a strike against the arguments for God, as if rendering such arguments inferior to the certainty of claims made by

[11] Ganssle's four elements are: 1) the universe is ordered and susceptible to rational investigation; 2) the world contains consciousness; 3) the world contains significant free agency; 4) the world contains objective moral obligations.

mathematics or science.[12] Nonetheless, such a view would be misplaced. It is worth noting that the phrase '*the* scientific method', though still widely used (to refer to such standard procedures as hypothesising, experimenting, measuring, testing, confirming, establishing protocols, peer-reviewing, and so forth), is now widely seen as merely an idiom – a convenient short-hand term that nonetheless does not accurately reflect the breadth of scientific reality. (This is like our earlier example of the scientist who says 'The sun is setting', when the scientist knows full well that, scientifically-speaking, the sun is not actually setting at all – the phrase is just a handy idiom.) For instance, Alexander Bird (among others) observes that the range of practices which scientists employ are sufficiently diverse that 'there is not one general method which will yield scientific knowledge…If there is any overarching principle upon which scientific reasoning works it is Inference to the Best Explanation'. Likewise, the various arguments for God, when argued in detail and when deployed as best-fit and cumulative-case arguments, form a very plausible 'Inference to the Best Explanation' case for God.

Now for the *second* outcome that the arguments for God achieve. More than simply making belief in God 'significantly plausible', the arguments also achieve something which, from God's side, is actually more important. For many people, the arguments are *attractional* – their plausibility attracts people to further search for God.

The attraction is funded by at least three particular human qualities, cognitively built into us, namely our transcendence-disposition as we discussed earlier in an earlier chapter, along with *curiosity* and *hope*: curiosity to know whether there is more to this God than the arguments can show, and hope that there is indeed more to this God than the arguments can show – even hope that perhaps this God is relevant to me and my life. On further reflection, this leads us to suggest that, along with intelligibility and reason, curiosity and hope are themselves positive-quality

[12] There is an important distinction to note between mathematics and science. Mathematics provides knowledge through deductive reason; science provides knowledge through inductive reason (because science makes particular observations, then draws generalized conclusions from those particular observations in order to identify laws of nature). This gives rise to the famous 'problem of induction' for science, initially identified by David Hume (1711-1776), namely that, since the conclusions of inductive reason only give probabilities rather than certainty, scientific claims can never be known with certainty. Thus it appears that scientific knowledge (which is inductive) is less secure than mathematical knowledge (which is deductive); however, mathematics also has its limits, as demonstrated by the famous 'incompleteness theorems' of Kurt Gödel (1906-1978).

evidences of God. (Although, like any good thing, curiosity and hope can be abused – for instance, curiosity can turn into voyeurism and hope can be misplaced.)

All this fits very well with a God who seeks to be sought, and thus has given us the cognitive resources to look for and detect – *to seek and to find* – this God. Such a God leads us into profound and fruitful implications for how we live within modernity, for how we engage in the natural sciences, the human sciences, the arts, and the professions. (We will explore some of these in Part III). The attraction to God is not merely to a 'spiritual' life, narrowly conceived, but rather to a comprehensive vision for what life is about. As McGrath puts it, the effort to discern the signs of God will 'inform and transform the human search for transcendence, and [thereby] provide a framework for understanding and advancing the age-old human quest for the good, the true, and the beautiful'.

The Desire for Knock-Down Evidence

Agnes*: I want to return to the question of what is achieved by the various arguments for God. 'Significant Plausibility' is a weaker outcome than I would like, I would really prefer some sort of knock-down evidence from God, providing absolute certainty. Indeed, if God exists it would surely be to God's advantage to provide knock-down proof of God's existence – so it seems to count against God that the evidence is merely plausible.*

Malcolm Jeeves has made the following observation: 'In neuroscience, a leading theist was Sir John Eccles and a leading atheist Francis Crick, both Nobel laureates. When we see such distinguished scientists in psychology and neuroscience taking such radically different views, the lesson becomes clear: there are no easy answers to these questions. There are no knockdown arguments to settle the debates.'

Agnes's comment above implies that it is a mark against theism that there are no knockdown arguments for God, as if the onus is on the theist, or else on God, to demonstrate the theist position as *clearly* the most viable. However, it turns out that there are good reasons why only indirect evidence is available – for *God has good reasons for not providing knock-down evidence*. There are at least four such reasons.

First is a *volitional* reason. God knows that 'proofs' do not necessarily convince anyway. Human nature is such that, even with unambiguous evidence, giving absolute certainty, people would still choose not to believe, let alone commit themselves relationally. An infamous

example of this human stubbornness to resist following evidence to its rightful conclusion is provided by the group of jurors who, in 1991, acquitted four police officers of brutality in the case of Rodney King. This event led to widespread riots in Los Angeles, and to great social distress in the Unites States at the time. King, a black man, was beaten by numerous white police officers on a street in Los Angeles. The incident was captured on video, which showed King lying on the ground while being repeatedly kicked and batonned by the officers. Four of the officers present were charged with brutality, but at their trial white jurors, who repeatedly watched the video, acquitted the officers, saying 'King was in control of the situation the whole time, he could have walked away any time he wanted'. Millions of others, who saw this video repeatedly on the t.v. news for months, could see that Rodney King certainly was not in control of the situation, indeed that he was being severely abused, and so the widespread feeling was that the acquittal was based on racial bias, not on the clear video evidence. The King case provides a widely-known example of how even clear and certain evidence will not convince minds and hearts that do not want to commit to the evidence. In other words, tightly reasoned arguments do not necessarily translate into emotional ownership of, or volitional commitment to, such proof or the implications of that proof – a quality of human nature of which God is very aware! This is the point behind Jesus' words in Jn.6:36: 'You have seen me but you still do not believe'.

Second is a *relational* reason. God does not provide proof because it reverses the order of accountability in the divine-human relationship. Demanding proofs of God's existence puts God on trial, making God accountable to *us* for what counts as satisfactory evidence, putting the responsibility on *God* to provide evidence of God's own existence. However, if God exists, it is unsurprising that this expectation should be reversed – it would then be *us*, humanity, not God, who is in need of defence. Here we can recall Romans 1:19: 'What may be known about God is plain [to all] because God has made it plain to them. For since the creation of the world God's invisible qualities – his eternal power and divine nature – have been clearly seen, being understood from what has been made, so that people are without excuse' (TNIV). God's 'eternal power and divine nature' describes well the Transcendent God and Immanent God evidence of which we have spoken – and the various forms of transcendent and immanent evidence are 'plain'. This implies two things: first, that God has ensured that humanity has *sufficient cognitive ability to engage in inferential reason* to the extent needed to be able to see the universe as providing evidence for God's existence (this is similar to our earlier discussion of belief as

properly-basic, although it is pointing not to basic belief but to innate or basic reasoning ability); and second, that God considers the available evidence to be sufficiently clear to human cognition that humanity can be held accountable for dismissing these evidences. Being 'without excuse' therefore implies that people are responsible before God for the implications they draw from their observations of 'what has been made'. The pattern of accountability and need for justification is humans before God, not God before humans, so God chooses not to meet any standard of unambiguous proof because this would imply that God has to prove himself to humanity, in effect reversing the pattern of accountability between humanity and God.

Third is an *epistemological* reason: God is concerned to develop our skills of interpretation. Every scientist knows that natural objects need to be interpreted. A chemist looking through a microscope, a biologist dissecting an animal, a geologist looking at a rock sample, a physicist looking at computer data – all of these engage in interpretation of the objects which they observe. Such interpretation is, however, never a neutral exercise. Not just conflicting explanations, but conflicting *interpretations*, even conflicting theories, often occur – a particular piece of evidence may be interpreted one way or another.

Our concern here is a conflict of interpretations about the object we call 'the universe'. Materialists are like the person reading *Gulliver's Travels* or *Moby Dick* who enjoys the narrative at the level of story, but who misses the richer meanings, the satire and social commentary, intended by the authors. Indeed, most copies of *Gulliver's Travels* and *Moby Dick* are sold today not for personal enjoyment of the stories themselves but rather for reading in schools and universities. Precisely because these books are so symbolically rich, so meaningful at so many deeper levels, they are used to teach students appreciation of, and skills for, deeper and richer interpretation. Interpreting the universe as dysteleological is like interpreting *Moby Dick* or *Gulliver's Travels* as merely stories – the more significant meanings, and thus the very *telos*, intended by their authors are completely lost. Dysteleological assumptions result in an epistemological disability which we could call 'interpretive agnosia', whether the context is interpreting a novel or interpreting the universe. So God does not provide knock-down evidence for an *epistemological* reason, namely to draw us into learning deeper skills of 'natural interpretation'. This is not some abstract effort, but rather leads us into fruitful non-reductive ways of envisioning in preliminary ways the true, the good, and the beautiful.

The fourth reason is *formational*: uncertainty invites curiosity and investigation, and thus takes seekers into a formational process. Manly makes the following observation in light of Heisenberg's uncertainty principle in physics: 'As sad and frustrating as it is to lose the power of determinism [because of Heisenberg's uncertainty principle], there is no need to shed tears. It turns out that the uncertainty inherent in quantum mechanics is incredibly liberating and has driven much of the progress in fundamental physics in the last century'. The same is true in making progress in the spiritual life. The search for God is a process, and God is big on using process to shape and form us as flourishing people. Knock-down arguments could override, or at least short-circuit, such a formative process. The Materialist may see this is as a reason easily disregarded, but in the mind of God it could be just as important as any of the other reasons.

From Evidence to Encounter

So God has a number of good reasons *not* to provide knock-down arguments to prove to humanity that God exists. Nonetheless, God may choose to provide some people with knock-down *experiences* – experiences that provide people with *existential certainty* rather than epistemological certainty. 'Existential certainty' means that a person has no doubt about the truth of their belief, even though they cannot prove it to be true, and that they are deeply committed to this belief emotionally and volitionally. The reason for existential certainty in these cases is that such knock-down experiences amount to direct, rather than indirect, evidence of God. Why God provides such experiences to only some people but not to everyone, and what sort of experiences are self-deceptive and what sort are true, we will examine later. Not that direct experience of God is a requirement for existential certainty. Even significantly-plausible belief can be sufficient basis for existential certainty – which we see even in Materialists such as the New Atheists. The New Atheists cannot prove their beliefs with unambiguous certainty yet are existentially certain about the truth of their beliefs and thus they are deeply committed to these beliefs both emotionally and volitionally. Nonetheless, direct, knock-down experience of God enables recipients of such experiences to move from existential uncertainty to existential certainty. Even more importantly, such experiences, where genuinely of God, enable recipients to move into a deeper relationship with God. This then moves us from the narrower issue of what evidence God provides, to the more significant question of how God makes himself known.

It is an ancient observation that there is an immense difference between knowing *about* God, and *knowing* God. From God's perspective, knowing about God is irrelevant without actually knowing God. Knowing *about* someone involves superficial knowledge of some facts or qualities – it approaches the other as an object to be known by mere observation. *Knowing* someone, however, is knowledge gained through sustained relational involvement with them – it approaches the other as a subject to be known by the self-revealing mutuality of relational encounter. We can readily see the distinction in ordinary life. Before I met my future wife, I knew certain facts about her from friends, but it was not until I was in a dating relationship with her that I got to know her much better, and it was not until we married that I got to know her even more profoundly. In each stage, she made herself more known to me, and I to her. The risk, trust, and pleasure of this mutually self-revealing process (with periodic set-backs that have to be overcome by risk, forgiveness, and renewal of trust and pleasure) are absent from knowing *about* someone but are essential to *knowing* someone. Philosophers call this 'knowledge by acquaintance' (deep acquaintance!), as opposed to knowledge merely by observation or by testimony or by abstract reasoning, important as these are in many areas of life. To understand a person is to understand their subjectivity, and this is understood through how they make themselves known in varying degrees of mutual relationality.

The philosopher and scientist can thus anticipate the need to move from mere knowledge by *investigation* (discerning the evidences for God) to knowledge by deep *acquaintance*, reasoning thus: If the available and provided evidences plausibly point to a morally-concerned and lovingly-purposeful God, then it is a natural next step to analogically suppose that this God has subjectivity of some sort. Thus the social science principle of seeking to understand the subjectivity of the other, including how the person chooses to reveal themselves to others, should be applied. To put it another way, we need to move from treating God as an object to treating God as a subject, which in effect means asking *How does this God make its subjective self known to us?*

This now moves the investigation into the realm of personal risk, for moving from treating God as object to treating God as subject may result in some sort of relational implication. In other words, there may be much more to how God makes himself known, in ways that the concept 'evidence' doesn't capture. How might God do this? In history is a good place to start – as we will see in our next chapter.

God's Elusiveness – The Problem of Bias

Agnes*: So God has good reasons for not providing knock-down evidence for God's existence. This does make God seem rather elusive, which seems odd if God wants to be found. Perhaps God is just being coy!*

We have already seen part of the reason why God seems elusive or hidden, namely that, for those who have not had a knock-down experience of God, the evidence for God is indirect (even though significant and plausible) rather than knock-down. Nonetheless, God also appears more elusive than is actually the case *because of our biases*. This then brings us to the other side of the discussion – one side concerns evidence (Is there any, and, if so, of what sort?), while the other side concerns the people seeking evidence: are there qualities about the people seeking the evidence that hinder detecting and appropriately interpreting the evidence if it is there?

It is often supposed that modernity makes its arguments neutrally, objectively, without bias (as seen in the adoption of supposedly observer-neutral methodology in science), while religious people make their arguments non-neutrally and non-objectively – thus with bias. The implication then is that arguments *for* the existence of God are inherently biased from the start, but the arguments *against* God are objective and unbiased. One of the insights of post-modernity, though, is that it is not possible for humans to get away from bias – every question and every argument arises from preceding sets of assumptions and commitments. Consequently, non-neutrality is impossible to avoid, and there is no such thing as 'objectivity'. So the *anti*-God arguments of modernity are not really neutral, objective, or unbiased at all. The issue here is not that biases are not permitted – as we have just said, no one can avoid bias, whether Christian or Materialist. The issue is to be able to name the biases in order to examine to what extent they might be valid or not.

Here I wish to identify four often-ignored Materialist biases, beginning with the *physical bias* – the claim that only the physical realm is real. As we pointed out in the Introduction, this is not a scientific claim but rather a philosophical claim – and there is no possible argument that can be made to show that the Materialist's physical bias is more correct than the theist's *spiritual* bias that the spiritual is more fundamental than the physical. Materialists can certainly show why they *are more persuaded by* the Materialist bias, even if they cannot prove it true. Susan Haack, for instance, provides her reason: '[M]y specific metaphysical views are naturalistic in that they

eschew supernatural explanations – or rather, "explanations," for by my lights these are not really explanations at all.'

Many Materialists would share Haack's view, but her discussion is naïve, showing no familiarity at all with Christian discussions in this regard. Were Haack to engage with Nancey Murphy and George Ellis's *On the Moral Nature of the Universe*, or Robert John Russell's *Cosmology: From Alpha to Omega*, or Richard Swinburne's *The Existence of God*, or Timothy O'Connor's *Theism and Ultimate Explanation*, or Alister McGrath's three-volume *Nature, Reality, Theory* series, she would need to reconsider this negative assessment of 'supernatural explanations' as 'non-explanations'. Nonetheless, even in reconsidering her assessment, Haack could still retain her preference for Materialism's physical bias, but even so – and this is the real point here – her affirmation of the physical bias would still ultimately rest on a faith commitment. Haack is entitled to this – we are all in the same boat! But the boat needs to be recognised.

Sometimes what lies underneath the physical bias is a concern that 'spiritual' views of reality will necessarily denigrate the value of the physical realm. This is certainly a *possibility*, as can be shown historically, for instance in ancient neo-platonism and gnosticism, along with some forms of the monotheist religions. In these worldviews, the material world is considered inferior to the spiritual – in some cases even considered evil. But giving a negative value to the physical realm is not a necessity, as is seen in the Jewish and Christian traditions that root their assessment of the physical realm in God's words at the end of the process of creation: 'God saw all that he had made, and it was very good' (Gen.1:31). The creation is very good not only because it was made by God, but because of why it was made: to be a place in which loving beings can emerge and exist in loving relationship with God and with each other. It is hard to imagine a stronger basis on which to give positive value to physical reality than attributing its existence to God's creative goodness and love, as a place intended by God for the emergence and sustenance of loving beings.

Furthermore, when Christian eschatology (humanity's ultimate future) is considered, this picture is reinforced. As New Testament scholar N.T. Wright puts it, the Jewish and Christian doctrine of the resurrection of the dead 'was a way of talking about a new *bodily* life *after* whatever state of existence one might enter immediately upon death. It was, in other words, life *after* 'life after death''. The popular image of Christian salvation as an eternal life in heaven is a

significant misreading of the New Testament, for, according to Wright: 'The whole point of what Jesus was up to…was not about saving souls for a disembodied eternity, but rescuing people from the corruption and decay of the way the world presently is so that they could enjoy…that renewal of creation which is God's ultimate purpose.' In light of this, Wright states: 'The question ought to be, '*How will God's new creation come?*', and then '*How will we humans contribute to the renewal of that creation, and to the fresh projects which the creator God will launch in this new world?*' (Wright's italics in each quote). So we see here another affirmation of the infinite value God places on this world.

So the beginning and the end of the Christian vision is marvellously affirmative of this world. In contrast, the Materialist valuation of physical reality *is far less securely grounded*, for the positive value of the physical realm becomes nothing more than a subjective or communal affirmation for those who experience the world positively. For those, however, who experience life negatively, as fundamentally a place of deep suffering or oppression, the positive valuation is an illusion. In contrast to the Materialist bias, the Christian bias provides an infinitely-positive – and thus hope-filled – valuation of the physical realm, even in the face of suffering, oppression, and nihilism.

A second Materialist bias is *the non-relational evidence bias*, that is, the biased assumption that God would give only non-relational evidence. For instance, as Moser observes, there is often a bias that the evidence God would provide humanity (to demonstrate God's existence) would be morally-neutral, and/or observer-neutral, and/or highly dramatic. Note that all these types of evidence involve no divine concern for *relationality* between God and humans. This, as we have said, rules out the possibility that God's concern would be to give relational forms of evidence – and thus forms of evidence *other than* dramatic fireworks-like evidence or morally-neutral evidence. This bias creates blindness to the possibility that God's intentions in providing evidence will likely reflect God's character and God's purposes.

We see such bias in the comments that Materialists make, such as in our earlier quote from Yuri Gagarin, 'I didn't see God out there'. Here was a bias that God must make himself visible for Gagarin, as if God was at Gagarin's disposal. Bertrand Russell famously commented that if he had to face God after his death he would say 'But God, you gave us insufficient evidence'. Yet God could reply, 'You had more than enough evidence available – transcendent, immanent, and personifying'. As Moser comments,

> Russell might have considered a bit of cognitive modesty in the presence of an authoritatively and morally perfect God. In that case, Russell instead would have asked: 'God, what morally impeccable purpose of yours led to your being supple and elusive in the evidence of your reality available to humans?' It is disappointing that Russell showed no awareness of such an important question for a reasonable truth-seeker regarding divine reality.

The supple and elusive evidences to which Moser refers can include both indirect evidences for God and relational-personifying evidence. The 'non-relational evidence' bias completely excludes personifying evidence, which, ironically, many converts attest as having been a very persuasive form of evidence for them – 'I was persuaded by the loving way-of-life of this particular person, and this attracted me to the faith that made them this way'.

A third bias is the *unresolvable contradictions* bias. Philosophers and scientists are both familiar with the situation whereby two evidences or two propositions appear to contradict or conflict with each other, yet both are still affirmed as being probably valid while a means is sought to demonstrate that the contradiction is only apparent, not actual.

Countless examples could be given, though a couple examples will suffice. One concerns the nature of light. In 1861, James Clerk Maxwell proposed that light is an electromagnetic wave, which quickly became the standard view on the nature of light. In 1900 Max Planck proposed that light also takes the form of particles, yet, as Manly points out, to physicists, '[t]he hugely successful wave view of light clearly contradicted the interpretation of light as a particle'. Eventually, physicists concluded that light does indeed display the physical properties of both particles and waves. In this case, the apparent contradiction was never 'resolved' – in the end the apparent contradiction was simply accepted as the actual, if counterintuitive, nature of reality.

A more recent example is provided by the early study of black holes. At the time, jets of particles were observed emanating from some black holes: it appears as if these particles were escaping from the black hole; however, since by definition (and mathematical proof) nothing escapes black holes, how could jets of particles be emerging from black holes? The mathematical evidence (hypothesising that nothing is capable of escaping from a black hole) seemed to be contradicted by the observational evidence (of the jets of particles emanating from the black hole). The *apparent* contradiction between hypothesis and observation was eventually resolved, showing that in fact there is no *actual* contradiction because the observed evidence had been

misinterpreted.[13] So the contradiction was only apparent, and was resolved when the observed phenomenon was reinterpreted.

These two examples illustrate the common scientific practice of holding on to apparently-contradictory evidences while trying to figure out whether or not they actually are contradictory. Indeed, we have just seen in these examples two different methods of resolution: one amounts to non-resolution, in effect simply accepting reality as weirdly counter-intuitive; the other is resolution by reinterpreting one of the observed phenomena.

Nonetheless, when it comes to discussing evidence and theories about God, Materialists frequently toss this practice out the window – rather conveniently. A classic example is the resurrection: supposedly, there cannot be an individual who is 'was dead'. (By this we mean *completely* dead, not just 'brain dead'.) 'Clearly this cannot be the case, so we won't give any time, effort, or patience to exploring how an individual can be 'was dead''.[14] Another example is the problem of suffering: supposedly, there cannot be both a loving almighty God *and* evil and suffering in the world. Clearly the reality of evil and suffering cannot be denied, so then out goes any possibility of a loving almighty God – *voila*, proof that God does not exist! In effect, we see a convenient double-standard: '*Our* worldview is permitted to hold on to apparent-contradictions, whether counter-intuitive or still-being-investigated – but *yours* is not!'

A fourth bias is the *Too Spooky* bias. Einstein famously denied the logical possibility of quantum entanglement (the phenomenon whereby two quantum-level objects are physically separated yet behave as one) on the grounds that it would just be 'too spooky'. Today, though,

---

[13] As it has since turned out, a more adequate interpretation is this: At the 'event horizon' (or 'Schwarzchild radius') of black holes, molecules (from objects which have been gravitationally drawn towards the black hole) are sheared apart, some of which are pulled into the black hole, and some of which are were caught up in the 'distorted magnetic field lines' which surround black holes. These distorted magnetic field lines, in combination with the spin of the black hole, coalesce these particles into spiralling jets, propelling the particle-jets away from the black hole. These jets are among the brightest objects in the universe.

[14] We mentioned in footnote 12 (above) Hume's 'problem of induction'. A classic illustration of this is the famous 'black swan problem': 'All swans that have ever been seen are white, therefore all swans are white' – or at least so thought Europeans until black swans were documented in Australia in the early 19th century. The discovery of black swans falsified the inductive truth-claim that all swans are white. The resurrection of Jesus can be seen as another confirmation of Hume's problem of induction precisely because it falsifies the claim that 'No person can be "was dead"' (where 'dead' means completely dead, not just brain-dead).

nobody denies that quantum entanglement exists – the evidence is now considered too persuasive. In the same way that Einstein rejected the evidence for quantum entanglement, simply because he had a prior innate or intuitive bias that the implication of this logic was 'too spooky', so too many Materialists reject the evidences pointing to God for the same inadequate reason: the implication, that a Transcendent and Immanent God exists, is simply 'too spooky'. Ironically, these same people will chastise Einstein for his 'too spooky' response to quantum entanglement.

An example of the Too Spooky bias can be seen in the way many have responded to the observation of fine-tuning of the universe, namely to jump on board the multiverse hypothesis. Though multiverses had been mathematically hypothesized a couple decades before fine-tuning was recognised, the multiverse concept has gained prominence in recent years in part because of the Too Spooky bias. Given the widely-accepted methodological principle in science of preferring simpler explanations to more complex ones (the principle of 'Ockham's razor'), and given that a Creator-Mind can be seen as a simpler explanation of fine-tuning than the possibility of multiverses, then the Creator-Mind hypothesis would be the usual preferred explanation. Indeed, as John Lennox points out, it is far simpler and more rational to believe in a Creator God than to believe that 'every other universe that can exist does exist; including one in which Richard Dawkins is the Archbishop of Canterbury, Christopher Hitchens is the Pope, and Billy Graham has just been voted atheist of the year!'

Yet many have jumped to a preference for the multiverse preference. *Why* have so many *who are unfamiliar with the earlier mathematical arguments for multiverses* so quickly jumped on board the multiverse hypothesis, even though it is a much more complex proposal than a Creator God by which to explain apparent fine-tuning? Very often it is because of the Too Spooky bias – a Creator-Mind is simply too spooky for such people to countenance. As if the idea of a multiverse is any less spooky! Of course, the Too Spooky bias can arise not just in response to the fine-tuning argument but in response to any of the arguments for God. Regardless, just as various Materialists have pointed out that Einstein needed to get over his Too Spooky bias, so too Materialists need to get over *their* Too Spooky bias.

The point of naming these four biases is not simply to make interesting observations, but rather to point out that they are fallacious. The physical bias, the non-relational evidence bias, the unresolvable contradictions bias, and the Too Spooky bias all provide resistance to theistic

claims, yet all are problematic. When the frailty of these biases is recognised, the resistance they offer against theistic claims is greatly diminished, and the plausibility of theistic claims correspondingly increases. God remains elusive, but less elusive than we had earlier thought, and with these biases removed, it is easier to see that God may have good reasons to be hidden or elusive at times.

This then takes us into the topic of our next chapter, namely the subjectivity of God and how God makes the divine self known to us in the midst of our modernist assumptions and worldviews.

Narrative Bibliography

For a more detailed description of the neurological evidence for built-in predisposition to belief in God, and for some assessments of evolutionary hypotheses to explain this disposition, see: Jeffrey Schloss and Michael J. Murray, eds., *The Believing Primate: Scientific, Philosophical, and Theological Reflections on the Origin of Religion*;[15] Malcolm Jeeves and Warren S. Brown, *Neuroscience, Psychology and Religion*;[16] Andrew B. Newberg, *Principles of Neurotheology*.[17] Those interested in reading actual arguments for the existence of God (as opposed to my brief overviews above), see: Robert J. Spitzer, *New Proofs for the Existence of God: Contributions of Contemporary Physics and Philosophy* (note that Spitzer uses 'proof' here not in the sense of knock-down certainty but rather in the sense of strong probability);[18] T.J. Mawson, *Belief in God*;[19] Paul Copan and Paul Moser, *The Rationality of Theism.*[20] For the most original recent version of the cosmological argument, see Timothy O'Connor, *Theism and Ultimate Explanation.*[21] Those of a more post-modern inclination may wish to read James R. Peters, *The Logic of the Heart: Augustine, Pascal and Rationality of Faith*.[22] Those who wish to read a more substantial explanation and defence of the personifying-evidence argument should read Paul Moser, *Evidence for God: Religious Knowledge Re-examined*[23] (though I have proposed here a more significant, though still circumscribed, place for natural theology than does Moser). I haven't explicitly addressed the so-called New Atheists (Dawkins, Harris, Hutchins, and Dennett) because so many books have been published in response to them. However, I find myself unable to refrain from commenting on Dan Brown's *The DaVinci Code*. In my view, Brown is the most intellectually dishonest author I have ever read, not only in terms of the wildly misleading claims about Christianity

[15] Schloss and Murray, *The Believing Primate*.
[16] Jeeves and Brown, *Neuroscience, Psychology, and Religion*.
[17] Newberg, *Principles of Neurotheology*.
[18] Spitzer, *New Proofs for the Existence of God*.
[19] Mawson, *Belief in God*.
[20] Copan and Moser, *The Rationality of Theism*.
[21] O'Connor, *Theism and Ultimate Explanation*.
[22] Peters, *Logic of the Heart, The*.
[23] Moser, *The Evidence for God*.

and Catholicism in his famous novels, but also in his refusal to respond to the numerous scholarly and semi-scholarly books written to rebut his claims. On evolutionary convergence, see Simon Conway Morris, ed., *The Deep Structure of Biology*,[24] and also Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe*.[25] On methodology in the social sciences, see Martin Hollis, *The Philosophy of Social Science*, revised edition,[26]as well as Alexander Rosenberg, *Philosophy of Social Science*, 3rd edition.[27] For scientific reasons to hypothesize multiverses, see Steven Manly, *Visions of the Multiverse.*

Quotations

Whittle illustration from John Lennox: *God and Stephen Hawking*, 36-37.[28] Quote from Michael J. Murray: 'Evolutionary Explanations of Religion', in Craig and Meister, *God is Great, God is Good*, 102.[29] Cosmological argument by Pruss: in Alexander Pruss and Richard Gale, 'Cosmological and Design Arguments', in Wainwright, ed., *The Oxford Handbook of Philosophy of Religion*, 125. For the formulation of Adams' moral argument: plato.stanford.edu/entries/moral-arguments-god (June 12, 2011). Quotes from Don Page: 'Does God So Love the Multiverse?', 6 and 3. Quote from Klaas J. Kraay, 'Theism, Possible Worlds, and the Multiverse', 1,3. Quote from George Ellis, 'Issues in the Philosophy of Cosmology', sctn.9.2.7. Quote from Polkinghorne: 'God and Physics' in Craig and Meister, *God is Great, God is Good*, 67. Quote from John of Damascus: William Placher, *Domestication of Transcendence*, 10.[30] Quote from Francis Collins: *The Language of God*, 218.[31] Quote from Stephen T. Davis: *God, Reason and Theistic Proofs*, 193.[32] Nietzsche: *Human, All Too Human: A Book for Free Spirits*, 153.[33] Quote from W.L.Craig: xx. Quote from Aquinas: *Summa Theologica*, 1.1. Quotes from Simon Conway Morris: 'Evolution and the inevitability of intelligent life', in Peter Harrison, ed., *The Cambridge Companion to Science and Religion*, 149-151. Quote from Scientific American blog: 'It's No Delusion: Evolution May Favour Schizophrenia Genes'; science-community.sciam.com (Nov. 26, 2007). Quote from Denton: 'The Inverted Retina: Maladaptation or Pre-adaptation?', in *Origins & Design* 19 (1999). Quote from Michael Brooks: 'What We'll Never Know', in *New Scientist*, 7 May 2011: 35. Quote from Malcolm Jeeves: *Neuroscience, Psychology and Religion*, 5. The first quote from Moser: *Evidence*, 2. Ganssle's four points are from *A Reasonable God: Engaging the New Face of Atheism*, Chapter 7.[34] Quote from Swinburne: *The Existence of God*, second ed., 342.[35] Quotes from Bird: *Philosophy of*

[24] Morris, *The deep structure of biology*.
[25] Morris, *Life's Solution*.
[26] Hollis, *The Philosophy of Social Science*. Rev. ed. 2002
[27] Rosenberg, *Philosophy of Social Science*. 3rd ed. 2007
[28] Lennox, *God and Stephen Hawking*.
[29] Craig and Meister, *God Is Great, God Is Good*.
[30] Placher, *The Domestication of Transcendence*.
[31] Collins, *The Language of God*.
[32] Davis, *God, Reason and Theistic Proofs*.
[33] Nietzsche, *Nietzsche*.
[34] Ganssle, *A Reasonable God*.
[35] Swinburne, *The Existence of God*.

Science, 268, 263, and 262 respectively.[36] Susan Haack, 'Belief in Naturalism: An Epistemologist's Philosophy of Mind', in *Logos & Episteme*, I:1 (2010), 70. Quote from Moser regarding Russell: *Evidence*, 38. Quotes from N.T. Wright: *Surprised by Hope*, 163, 214, 197.[37] Quote from McGrath regarding the true, the good, and the beautiful: The *Fine-Tuned Universe*, 39.[38] Lennox multiverse quote: *God and Stephen Hawking*, 50-51. Xxquote from Manly re loss of determinism is liberating: *Visions of the Multiverse*, xx. Quote from Manly re wave theory of light: *Visions of the Multiverse*, xx.

Quotes from Manly: *Visions of the Multiverse*, 92, 59, and 59 respectively.[39]

Quote from Davies: Manly, *Visions of the Multiverse*, 230.??xxcheck

Quote from McGrath: *The Open Secret: A New Vision for Natural Theology*, 5, 19.[40]xxcheck

ADD TO BIBLIOGRAPHY eventually

-Michael Ruse, 'Robert Boyle and the Machine Metaphor', 10. in *Zygon*, Vol.37, No.3 (Sept. 2002), 10; citing Boyle, *A Disquisition about the Final Causes of Natural Things,* in *The Works of Robert Boyle, Vol.5,* ed. T. Birch (Hildesheim: Georg Olms, 1966; original 1688), 392-444.

- Denton, see 'The Inverted Retina: Maladaptation or Pre-adaptation?', *Origins & Design* 19 (1999).

Susan Haack, 'Belief in Naturalism: An epistemologist's Philosophy of Mind', in *Logos & Episteme*, I:1 (2010), 70.

Robert John Russell[41] Swinburne[42] O'Connor[43] Murphy Ellis[44]

-Don N. Page, 'Does God So Love the Multiverse?', arXiv:0801.0246v5 [physics.gen.ph] 17 Jan 2008

Klaas J. Kraay, 'Theism, Possible Worlds, and the Multiverse', forthcoming in Philosophical Studies, also on his website

- George Ellis, 'Issues in the Philosophy of Cosmology', arXiv:astro-ph/0602280v2 29 March 2006

[36] Bird, *Philosophy Of Science*.
[37] Wright, *Surprised by Hope*.
[38] McGrath, *A Fine-Tuned Universe*.
[39] Manly, *Visions of the Multiverse*.
[40] McGrath, *The Open Secret*.
[41] Russell, *Cosmology*.
[42] Swinburne, *The Existence of God*.
[43] O'Connor, *Theism and Ultimate Explanation*.
[44] Ellis and Murphy, *On the Moral Nature of the Universe*.