

1 Natural Theology and Religious Belief

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1.1 What Is Natural Theology?

Natural theology has traditionally been defined in contradistinction to revealed theology. Since at least as far back as the ancient Greek philosopher Parmenides (Clark 2013: 11–13), one finds various expressions of a distinction between two quite different ways of arriving at beliefs about God or gods: one which appeals to allegedly divinely inspired and revealed sources of knowledge and the other which relies only on the natural human cognitive apparatus, unaided by putative revelation.¹ The latter approach hasn't been consistently referred to with the label "natural theology" until relatively recently, but it is clear that earlier thinkers such as Augustine and Aquinas were familiar with this basic distinction.² There appears, then, to be a long-standing recognition of an intellectual activity that involves an attempt at rationally establishing religious truth claims using methods that are in some sense religiously neutral. This activity might be thought to serve several interrelated goals: (1) to provide a methodology for those wishing to investigate the truth or falsity of a religious worldview prior to having committed to its tenets; (2) for those who are already committed to the tenets of a religious worldview to be able to investigate how much rational justification their religious beliefs would have if they were to base those beliefs solely on sources that are recognized by skeptics and believers alike; (3) for those already committed to the tenets of a religious worldview to have a means of trying to persuade those not already committed, without appealing to sources that the unpersuaded don't recognize.

Given that these are the central goals that natural theology seeks to fulfill, we can identify a couple of crucial features that a piece of reasoning needs to have in order to count as a natural theological argument. Firstly, it must presuppose only those cognitive faculties and belief-forming methods that

¹ For some contemporary expressions of this distinction, see Craig and Moreland (2009: ix), Parsons (2013: 247), Plantinga (1974: 219–220).

² Augustine makes a distinction between those religious propositions that can be demonstrated by rational proof and those that cannot (1991 [400]: 6.5). Aquinas makes a similar distinction when he distinguishes "philosophical science built up by reason" from "sacred science learned through revelation" (1981 [1272]: 1a, q. 1).

are available in principle to any rational agent. It cannot invoke alleged special faculties or sources of insight that only some individuals possess or whose existence is contested by adherents of competing metaphysical world-views. This doesn't rule out appealing to scientific discoveries that rely on technologies and conceptual frameworks not possessed by humans in all ages or places. The point is that human beings in all eras of history and all parts of the globe have had the same basic cognitive apparatus that would have enabled them to grasp those scientific discoveries if they had been taught the relevant conceptual frameworks and provided with the requisite technology. Secondly, an intellectual activity that seeks to fulfill one or more of (1)–(3) cannot treat religious texts as sources of properly basic belief, which is to say, it cannot assume that the assertions of religious texts are likely to be true simply in virtue of their being asserted *by those texts*.

It is worth considering two sorts of intellectual activity that provide interesting test cases for the foregoing characterization of natural theology. The first is the project of trying to establish the historicity of events that are described in religious texts, the most prominent example of which is the effort to argue for the historicity of Jesus' alleged resurrection (Swinburne 2003; McGrew and McGrew 2009; Licona 2010). This project typically involves applying standard historical methods to argue for the reliability of certain key portions of the historical narrative in the Pauline epistles (e.g., 1 Corinthians 15:3–8) and the New Testament Gospels (e.g., Mark 16:1–8) and then goes on to argue that a bodily resurrection is the best explanation for the events described in those portions of the narrative. This seems to be straightforwardly an instance of natural theology in that the New Testament texts at issue are not being treated as sources of properly basic belief. Rather than being assumed, the historicity of the relevant portions of the narrative is being argued for on the grounds that those portions allegedly exemplify properties that a secular historian will recognize as evidence of authenticity. So whilst this approach in some sense “appeals to” religious texts, it does so in a way that is fully consistent with the goals of natural theology outlined above.

A second test case is the project of seeking to establish the logical coherence of the central doctrines of a specific religious tradition, which is one of the key tasks (though by no means the only one) that the burgeoning field of analytic theology aims to undertake (Rea 2009). Typically, the way this project is undertaken is that an author presents a description of a doctrine such as the Trinity that is drawn from religious texts and traditions, and then proceeds to try to show that the doctrine is logically coherent by appealing to analogies or thought experiments. I am inclined to think that even though this in some sense involves “appealing to” religious texts or traditions, it too is an instance of natural theology. To see why, consider an analogy with *a priori* knowledge. Let us grant that no one would ever acquire the concepts of *bachelor* or *unmarried man* apart from having various kinds of sensory experience of

the world. Still, it doesn't follow that one's knowledge of the proposition *bachelors are unmarried men* is not *a priori*. Whilst one's acquisition of the requisite concepts occurs through experience, one's epistemic justification for the belief that *bachelors are unmarried men* comes simply from reflecting on the meanings of the words, and hence is *a priori*. Similarly, whilst analytic theologians may derive their descriptions of the doctrines they study from religious texts and traditions, the epistemic justification they offer for believing in the logical coherence of these doctrines derives exclusively from the application of methods that are available in principle to both believer and nonbeliever alike: rational intuition, thought experiments, arguments from analogy, and so on.

1.2 The Varieties of Natural Theology

In this section we turn to consider the landscape of contemporary natural theology. As the remarks at the end of the previous section indicate, natural theology can be argued to encompass more than just arguments for the existence of God. However, given that arguments for the existence of God are still in many ways the central focus of the project of natural theology, I shall restrict my focus in this section to considering just these arguments. Moreover, I shall be concerned just with those arguments that offer reasons for thinking theism is true (or probably true) as opposed to arguments that offer merely pragmatic reasons for believing in God, Pascal's Wager being the most notable example of the latter.³

Immanuel Kant (1998 [1781]: A590/B618–A591/B619) claimed that there are only three ways to argue for the existence of God, which he termed the ontological argument, the cosmological argument, and the physico-theological argument. Kant distinguished these three arguments on the basis of the way in which the premises of each argument are allegedly known: purely *a priori*, on the basis of indeterminate experience, and on the basis of determinate experience, respectively. Whilst Kant's classification of natural theological arguments has been very influential,⁴ it is by no means the only way to carve up the landscape, and it arguably misses a large amount of important nuance. For example, moral arguments typically appeal to the intuition that there are objective moral values and duties, which could be seen as a kind of *a priori* intuition. But it would be very odd indeed to lump moral arguments in with ontological arguments, considering the vast differences between these two families of arguments. Indeed, it is striking that Kant doesn't even recognize moral arguments in his taxonomy. To take another

³ For more on pragmatic arguments for theism, see Chapter 5 of this volume.

⁴ See, for example, the Stanford Encyclopedia of Philosophy entry on "Natural Theology and Natural Religion" (Chignell and Pereboom 2015), which wholly adopts Kant's mapping.

example, contemporary arguments from consciousness frequently appeal to a combination of introspection and empirical observations from the field of neuroscience. It is again unclear where these arguments would fit in Kant's schema.

A more adequate approach might be to consider several families of arguments, which is to say, loose groupings, each of which have enough cohesion for us to be able to note some interesting things about their common structural features. The vast majority of natural theological arguments (henceforth NTAs) that have been studied to date can be grouped into the following eight families:⁵ (A) ontological, (B) cosmological, (C) teleological, (D) historical-experiential, (E) metaphysical-explanatory, (F) axiological, (G) noological (having to do with mind), and (H) epistemological. I shall suggest that (F) and (G) are sub-families of (E), but they have enough distinctive features to warrant separate discussion.

(A) Ontological Arguments

Ontological arguments can be thought of as arguments for theism from the nature of greatness or perfection. Anselm of Canterbury (1979 [1078]) argued that a thing is greater if it exists not only as a concept in the mind but also in reality. According to Anselm's argument, if the greatest conceivable being existed only as a concept in the mind, then there would be something conceivably greater than it (namely, something that also existed in reality), but that would of course result in a contradiction. Hence, the greatest conceivable being must exist not only in the mind but also in reality. In a somewhat similar vein, René Descartes (1988 [1641]: 63–71) argued that since existence is a perfection, a supremely perfect being cannot lack existence, hence there must actually exist such a being.

These arguments have been accused of treating existence as a property. Most philosophers, following Kant (1998 [1781]: A592/B620–A602/B630), hold that existence is not a property (or at any rate not a first-order property) but rather the precondition of something's being the bearer of any properties at all. The development of modal logic and modal metaphysics in the twentieth century has helped to sharpen the issues here. It is now quite widely recognized that whilst a thing's merely existing is not among its properties, its *necessarily* existing is. Indeed, some authors have claimed to find hints in the direction of a second kind of ontological argument in both Anselm and Descartes (Malcolm 1960; Leftow 2007, 2022), namely, a *modal* ontological argument, which contends that a perfect being cannot fail to have the property of *necessary* existence, which is greater than the property of merely contingent

⁵ The labels "axiological" and "noological" are borrowed from Craig (2001b).

existence. If it is genuinely possible for a perfect being to exist, then such a being exists necessarily, and hence actually exists.

Modal ontological arguments are the subject of intense discussion in contemporary analytic philosophy of religion, having been defended by Charles Hartshorne (1962), Alvin Plantinga (1974: ch. 10), and Yujin Nagasawa (2017: ch. 7), among others. There is something of a consensus among contemporary metaphysicians that the modal rule upon which most modal ontological arguments rely – the S5 rule, which states that if it is possible that it is necessary that p , then it is necessary that p – is highly plausible (Lowe 2002: 116–120). Everything thus hinges on whether a perfect being genuinely is possible, where the possibility at issue is metaphysical (or absolute) possibility. Graham Oppy (2007: ch. 12) contends that no one who isn't already a theist has good reason to affirm that such a being is possible. Several authors, however, are exploring novel ways of supporting the possibility premise, some of which even appeal to the content of religious experience (Pruss 2001, 2010; Nagasawa 2017: 202–205; Bernstein 2018).

(B) Cosmological Arguments

Cosmological arguments have been perhaps the most popular of all NTAs in the history of Western philosophy. One can find cosmological arguments in ancient Greek philosophy, in medieval Christian, Jewish, and Islamic philosophy, in the early modern period, and in the writings of a number of contemporary analytic philosophers (Craig 2001a). There are two characteristics that are particularly distinctive of cosmological arguments.

Firstly, the datum with which cosmological arguments begin is some metaphysically contingent and yet highly general feature of the cosmos. One of Aquinas's Five Ways (1981 [1272]: 1a, q. 2, a. 3) begins with the fact that objects undergo change, and another with the fact that there are causes and effects. An argument that Edward Feser (2017: ch. 2) attributes to Plotinus starts with the observation that some objects are wholes that are composed of parts. The cosmological argument developed by the *kalām* school of medieval Islamic philosophers and revived by William Lane Craig (1979) begins with the premise that the universe had a temporal beginning. A cosmological argument defended by Gottfried Leibniz (1991 [1714]: secs. 32–40) and Samuel Clarke (1998 [1705]) starts from the fact that there is a totality of things that exist contingently.

A second distinctive feature of cosmological arguments is that they invoke a principle according to which all the members of a particular class of things require a cause or explanation by something that is outside of that class. For example, the *kalām* cosmological argument has a principle stating that everything that begins to exist has a cause (external to itself) for its existence. The

class that is said to require an external cause, in this case, is the class of all things that have a temporal beginning. In general, the wider the class that is singled out as needing explanation, the harder the argument is to defend. God, of course, would need to fall firmly outside the class of things that are said to require an explanation by something external to themselves, otherwise God will not constitute a legitimate terminus of explanation. Some defenders of cosmological arguments contend that their favored explanatory or causal principle needs no justification; its truth is obvious and is knowable simply via *a priori* intuition (Craig 1979). Others offer what might be termed a “transcendental” argument for their preferred principle, contending that some such principle is a presupposition of all scientific and philosophical reasoning (Feser 2017: 149–151).

It is striking that cosmological arguments don’t typically purport to establish the existence of a being with all the classical divine attributes but instead something more minimal: a first cause or a necessary being. With that said, some defenders of cosmological arguments offer follow-up arguments that seek to show why the first cause or the necessary ground of everything must in fact have a range of other divine properties, which we shall consider later in this chapter.

(C) Teleological Arguments

Teleological arguments take as their data some empirically observable, contingent feature(s) of the structure of the universe. Typically, this consists in some pattern or configuration of parts or circumstances that is striking and seemingly improbable and that exhibits value of some sort, whether it be the instrumental value of making possible the existence of complex life or the intrinsic value of being beautiful. The empirical data that such arguments invoke may be observable by virtually anyone or may be accessible only to scientific experts. Examples of the former include the argument from the apparently purposive structures of living organisms put forward by William Paley (1802); Aquinas’s Fifth Way (1981 [1272]: 1a, q. 2, a. 3), which begins with a claim about the apparently goal-directed behavior of various objects that lack intelligence of their own; Richard Swinburne’s (2004: 154–166) argument from temporal order (i.e., the regularity of nature); and the argument from natural beauty (Tennant 1930; Wynn 1997). The argument from cosmic fine-tuning (Collins 2009; Hawthorne and Isaacs 2018) is an example of a teleological argument that invokes empirical data that are only accessible to scientific experts. The fine-tuning argument begins with the observation in recent physics that in order to be life-permitting, the fundamental physical constants and initial conditions of a universe need to fall within a tiny range out of all the possible values they could take. There is another teleological argument whose empirical premise is similarly difficult for laypeople to assess,

though is rather more scientifically contested than the empirical premise of the fine-tuning argument. It begins with the claim that certain structures in the biological world display a kind of complexity that cannot have been produced by a series of incremental evolutionary steps (Behe 2003).

It is seldom claimed by advocates of teleological arguments that the allegedly designed feature at issue is *impossible* to explain in naturalistic terms. Hence, teleological arguments are almost always framed nondeductively. Paley's argument was cast in terms of an analogy between living organisms and human-made machines – an analogy that David Hume (1990 [1779]) had already subjected to intense criticism. Most modern teleological arguments, by contrast, invoke no such analogy but instead employ a Bayesian probabilistic framework. Where F is the feature of the universe under consideration, teleological arguments are usually framed in terms of a comparison of likelihoods, the claim being that F is much more likely given theism than given naturalism, and hence F powerfully confirms theism over naturalism; put more formally, $\Pr(F|\text{theism}) \gg \Pr(F|\text{naturalism})$. The grounds offered in support of this comparative claim are twofold, corresponding to the two values that make up the comparison. On the left-hand side, it is alleged to be at least moderately probable that if God exists, then God would want a universe containing embodied, rational creatures (like humans), and F is either necessary for the existence of such creatures or is as at least as good a way of bringing about such creatures as any other way available to God (given other things God might be trying to bring about). On the right-hand side, the probability of F on naturalism is alleged to be very low, owing to the lack of mechanisms that a naturalist can legitimately invoke which would make it remotely likely that F would come about.

As one would expect, critics of such arguments tend to focus on defending the plausibility of naturalistic mechanisms that would make F at least moderately probable – for example, a multiverse in which vastly (if not infinitely) many different combinations of fundamental physical constants and initial conditions are tried out at random (Bostrom 2002: ch. 2). Another angle of attack, one pursued by some theists (Halvorsson 2018), is to cast doubt on our ability to have knowledge of divine psychology, which is something that seems to be presupposed by claims about what God would want the universe to contain.

(D) Historical-Experiential Arguments

What are commonly known as arguments from religious experience and arguments from miracles have a significant amount in common, such that it makes sense to discuss them together.⁶ It is noteworthy that arguments in this

⁶ The label “argument from miracles” is an unhelpful misnomer, in that the arguments in question don't begin with the premise that a miracle has occurred – that would obviously beg the question against the nontheist.

category have the potential, if successful, to lend support not just to generic theism but also to particular versions of theism, such as Islam or Christianity. The project of trying to argue for religiously specific claims about God from such data is sometimes known as ramified natural theology.

Arguments from religious experience fall into two broad categories. One sort begins with reports of religious experiences and argues that the existence and character of these reports lends evidential support to the hypothesis of theism or some specific version thereof (Gutting 1982; Mawson 2005: ch. 10). The other sort argues that a person who has a religious experience of such-and-such character under such-and-such conditions would be justified in having beliefs about God on the basis of that experience (Alston 1991; Swinburne 2004: ch. 13). The latter doesn't purport to establish any conclusion about God's existence directly, whereas the former does.

What is common to arguments from religious experiences of the first sort and arguments concerning alleged miracles is that they both begin with some testimony describing experiences whose character is alleged to be such as to lend support to the hypothesis that God exists and is the cause of the experiences in one of the following three senses: (i) God acted miraculously to bring about a publicly observable event that is the external stimulus of the experiences;⁷ (ii) God acted miraculously in order to bring about private experiences in the individual; or (iii) the experiences are the result of the operation of a genuine extra-sensory perceptual ability via which the individual perceived God or some other supernatural reality (whether or not the workings of that perceptual ability involved miraculous intervention). Arguments that seek to establish Jesus' resurrection from certain items of historical testimony are typically seeking to establish (i). Arguments that contend that God or some supernatural reality is the best explanation for widespread reports of religious experiences are usually seeking to establish (ii) or (iii).

As with teleological arguments, because it is generally granted that the experiences at issue could in principle be explained naturalistically, these arguments are well suited to probabilistic formulations: the claim is that the reported experience *E* is much more probable given theism (perhaps of a specific variety) than naturalism; put more formally, $\Pr(E|\text{theism}) \gg \Pr(E|\text{naturalism})$.

Famously, Hume (2000 [1777]) argued that miracles are by their very nature maximally improbable events by virtue of their being maximally counter-inductive, so that even testimonial evidence of the highest quality is insufficient to overcome the prior improbability of the alleged miracle. This argument struggles to find many contemporary defenders. John Earman (2000), no friend

⁷ In this case the evidence needn't be limited to testimony but could also include physical traces of the event. For helpful discussion on this point, see (Swinburne 2003: 14–15).

of theism, calls the argument an “abject failure.” In particular, Hume’s way of assigning epistemic probabilities to events has been severely criticized in view of the way that it makes it virtually impossible to have justified beliefs in hitherto unobserved event-types, an implication which would threaten to undermine the scientific enterprise (Hájek 2008). Others have noted that Hume’s estimate of the prior probability of an event pays attention exclusively to the observed frequency of the event-type and thus totally ignores the way in which evidence for theism can indirectly raise the prior probability of certain kinds of miracles, whose very purpose would be to stand out as unique, revelatory events (Swinburne 2003: 25–26). In short, an in-principle argument against the occurrence of miracles of the sort that is often attributed to Hume is very likely an overreach. As such, there is no principled barrier to arguing from an experience that is sufficiently difficult to account for naturalistically that theism is the best explanation for the experience’s occurrence, in one of the three senses outlined above.

(E) Metaphysical-Explanatory Arguments

In this category belong a wide range of arguments whose common characteristic is that they involve essentially the following two steps: the first step is an argument for metaphysical realism about a certain kind of entity; the second is an argument, usually cast as an abductive inference, to the conclusion that theism is better able to account for or accommodate the entity in question than any rival theory. Examples of entities that have served as the bases of such arguments are abstract objects in general (Feser 2017: ch. 3), mathematical entities such as natural numbers (Goldschmidt 2018) and sets (Menzel 2018), propositions (Keller 2018b), and possibilities (Leftow 2012: ch. 23).

The abductive inference to theism as the best explanation turns on the claim that theism has superior explanatory resources to be able to accommodate metaphysical realism about the entities in question. Three specific aspects of God’s nature seem to afford rich resources for grounding or accommodating the aforementioned entities: firstly, God’s mental life, and hence, representational abilities, afford the resources to accommodate those entities that seem to be representational in nature (e.g., propositions); secondly, God’s unlimited causal powers satisfy the apparent need for some of the aforementioned entities to stand in causal relationships with the material world in a way that, for example, the Platonic realm of Forms is unable to do; thirdly, God’s unlimited perspective means that, in contrast to attempts to ground some of the aforementioned entities in limited human mental activity, a theistic account faces no similar limits.

Let us now turn to consider two families of arguments that can be seen as species of metaphysical-explanatory arguments.

(F) Axiological Arguments

Like other metaphysical-explanatory arguments, axiological arguments involve basically two steps: first, an argument for objectivism, in this case, about some aspect of the moral or aesthetic domain; second, an argument – sometimes deductive but, increasingly, abductive in form (Baggett and Walls 2016: ch. 2) – that theism offers the best or only way to make sense of such objectivity.

Some such arguments contend that both objective moral values (e.g., the badness of pain) and objective moral obligations (e.g., that one ought not to kill innocent persons) are difficult or impossible to reconcile with nontheistic metaphysics (Craig 2008: ch. 4; Baggett and Walls 2016). Other proponents of axiological arguments are willing to grant that objective moral values may not need to be grounded in God, but contend that objective moral obligations have a number of features that make them especially difficult to square with a godless metaphysical picture, most notably, their sense of inescapable authority and their allegedly irreducibly social nature, or in other words, the way in which moral obligations are always ultimately owed *to someone* (Adams 2002: chs. 10–11; Evans 2013). A typical approach is for proponents of such arguments to work through a range of nontheistic accounts of moral obligations – including social contract accounts, secular natural law theories, and Kantian approaches – arguing that none are adequately able to do justice to the aforementioned features of moral obligations (Ritchie 2012).

(G) Noological Arguments

Noological arguments are a species of metaphysical-explanatory arguments that focus specifically on features of our mental lives that are alleged to sit uneasily with a naturalistic metaphysics. The features highlighted by such arguments include all of the following: the very fact that we have subjective, conscious experiences at all (Adams 1987: ch. 16; Moreland 2008; Page 2020); that mental states have the property of intentionality or aboutness (Reppert 2009); that the so-called psycho-physical laws that map brain states to conscious experiences would appear to need to be incredibly complex and numerous (Swinburne 2018); and that thoughts cause other thoughts in virtue of their representational properties, not merely in virtue of physical pushes and pulls, so to speak (Reppert 2009).

As with other metaphysical-explanatory arguments, the heart of these sorts of arguments is the claim that theism has much greater metaphysical resources than naturalism for accommodating the reality of conscious experience, intentionality, mental-to-mental causation, and so on. Whereas naturalism has to somehow get these phenomena out of fundamentally nonconscious, nonintentional building blocks, theism entails that these phenomena are at the bedrock of reality.

(H) Epistemological Arguments

Finally, epistemological arguments are those arguments that begin with a skeptical challenge to our supposed knowledge of some domain of reality and seek to convert the challenge into an argument for theism by defending the claim that theism offers the best or only way of getting around the skeptical challenge under consideration. Some such arguments seek to do this with global skeptical challenges, contending that naturalism leads to skepticism about *all* our cognitive faculties, whereas theism does not (Plantinga 2011: ch. 10). Others are more modest in scope, alleging that theism has a far easier time than naturalism of making sense of how we could have knowledge of some specific domains – for example, knowledge of metaphysically necessary truths (Koons 2018; Rogers 2021) or knowledge of objective moral truths (Ritchie 2012: chs. 2, 7; Baggett and Walls 2016: ch. 6).

There are basically two forms that an epistemological argument for theism can take. One approach is to grant that theists and nontheists alike are entitled to take themselves to have knowledge of the domain at issue, and then to argue that theism offers the best explanation for how we have such knowledge. The other approach is to claim that the naturalist has a defeater for all her beliefs in the domain in question (or *all* her beliefs, period, if the skeptical challenge is global in character). In response to local skeptical challenges, one option for the naturalist is to bite the bullet and admit that we lack knowledge of the sort in kind. But in response to global skeptical challenges, admitting the lack of *any* knowledge is a vastly less palatable option.

1.3 The Problem of the Gap(s)

In this section we consider the first of a pair of problems confronting the natural theologian. Even many enthusiastic proponents of NTAs tend to admit that there is a real sense in which no single NTA is enough on its own: there is a gap. Indeed, there seem to be at least two sorts of gap, one pertaining to content and the other pertaining to evidential strength. As for the former, most NTAs purport only to establish a proposition whose content falls some way short of full-blown theism with the whole range of classical divine attributes. As for the latter, there is a fairly widespread feeling that no single NTA is sufficiently powerful to carry the justificatory load for religious belief all by itself.

One strategy for dealing with this problem is to offer follow-up arguments that try to show why the fairly limited conclusion of some NTA (e.g., a cosmological argument for a necessary being) can be seen upon further reflection to entail a range of other divine attributes. One might call this the Thomistic approach, in view of the way that Aquinas follows up his Five Ways with a series of reflections intended to draw out most of the classical divine

attributes from his earlier conclusions (1981 [1272]: 1a, qs. 3–13). Feser (2017) offers just such follow-up arguments purporting to deduce virtually all the classical divine attributes from the conclusions of his NTAs, most of which are cosmological arguments of one kind or another. Craig (1979: 149–153) offers a version of this approach that follows up his Kalām cosmological argument by inferring that the cause of the universe must also have the attributes of timelessness, immateriality, and personhood, and must be extremely knowledgeable and powerful. Joshua Rasmussen (2009) seeks to move from the conclusion that the universe has a necessary being as its foundation to the further conclusion that the necessary being must be a perfect being. The benefit of this approach is that it may allow one to establish full-blown theism via a single chain of deductive argumentation. The downside is that it is vulnerable in the way it depends on the success of one or two arguments. Even if we put that concern aside, this approach doesn't secure specific religious claims of the sort that are in contention between the Abrahamic faiths, for example.

The most popular approach to the problem of the gaps (with respect to both content and strength) is to offer what is known as a cumulative case: a framework that seeks to harness the combined power of a range of distinct NTAs to try to establish the existence of a God with the various classical attributes. Arguably, there is no alternative to offering a cumulative case if one is seeking natural theological justification for a religiously specific form of theism that makes claims about how God has acted in history; one will need a cumulative case that involves some historical-experiential arguments. There is no single agreed-upon framework for how a cumulative case should be constructed and evaluated. Broadly speaking, we can distinguish between informal and formal approaches, and among the latter we can distinguish between deductive and probabilistic approaches.

R. Douglas Geivett (1995: chs. 6 and 7) develops a cumulative case in which different deductive arguments secure different divine attributes. On this approach there could be multiple arguments offered for a given attribute, so that there would be justificatory overdetermination. The main challenge for this approach is how to establish that one and the same being is the bearer of all the different attributes purportedly established by the various deductive arguments. It would seem that at this point, things cannot stay strictly deductive. Some kind of inductive or abductive argument is required to make the case that one and the same being is the bearer of all the different attributes that have allegedly been established by deductive arguments. T. Ryan Byerly (2019) and Justin Mooney (2019) have developed a framework that purports to show that a single bearer of attributes is a superior explanation for the conclusions of a range of NTAs than multiple bearers of these various attributes.

Turning to probabilistic approaches, it is typical to employ the framework of Bayes theorem. There are several different (mathematically equivalent)

ways to state Bayes theorem, but perhaps the most intuitively accessible is the odds form:

<i>Ratio of posteriors</i>	<i>Ratio of priors</i>	<i>Ratio of likelihoods (Bayes factor)</i>
$\frac{Pr(H1 E_{1...n})}{Pr(H2 E_{1...n})}$	$= \frac{Pr(H1)}{Pr(H2)}$	$\times \frac{Pr(E_{1...n} H1)}{Pr(E_{1...n} H2)}$

The odds form supplies a formula for calculating what is known as the ratio of posteriors: how much more probable some hypothesis H1 is conditional on some body of evidence $E_{1...n}$ than a rival hypothesis H2 is conditional on that same body of evidence. This ratio is equal to the product of two other ratios. Firstly, there is the ratio of priors: how much more probable H1 is than H2, logically prior to $E_{1...n}$ being taken into account. Secondly, there is the ratio of likelihoods (also known as the Bayes factor): how much more likely $E_{1...n}$ is given the truth of H1 than given the truth of H2. This latter ratio is a measure of how strongly $E_{1...n}$ supports H1 over H2. In the context of natural theology, H1 is usually the hypothesis of theism, though sometimes it is the hypothesis of a particular version of theism, such as Christianity or Islam. Usually, H2 is the hypothesis of naturalism. And $E_{1...n}$ is some collection of evidence that is alleged to support theism over naturalism. A cumulative case is constructed by taking the conclusions of various arguments to constitute the different items of evidence that make up $E_{1...n}$. Provided that E_1 and E_2 are two genuinely independent pieces of evidence, each of which lend support individually to H1, then the probability of H1 conditional on both pieces of evidence is greater than the probability of H1 conditional on only one of these pieces of evidence.⁸ By aggregating a large number of items of evidence (i.e., a large number of independent NTAs) that each lends some degree of support to theism, the aim is to build a case that supports theism far more strongly than any argument taken in isolation is capable of doing (see Poston 2018).

One challenge for this framework is how to capture the force of deductive arguments, given that the Bayesian approach only works if one grants a nonzero probability to E given the falsity of H, whereas deductive arguments are usually seen as issuing conclusions that are certain if the argument is sound. A way around this might be to see deductive arguments as yielding conclusions that have an epistemic probability of less than 1, specifically, as having a probability that is no greater than the probability of the argument's least certain premise.⁹

⁸ Brandon Fitelson (2001) offers an account of independence of evidence according to which two pieces of evidence, E_1 and E_2 , are confirmationally independent of one another just in case the degree to which E_1 confirms H is unaffected by whether or not E_2 is known, and the degree to which E_2 confirms H is similarly unaffected by whether or not E_1 is known.

⁹ Note that it is common to hold that one can legitimately assign an epistemic probability between 0 and 1 to a proposition that is either metaphysically necessary or metaphysically impossible.

There are yet other challenges to this framework. One is the so-called problem of the priors, the issue of how one is supposed to work out the prior probabilities of theism and its rival hypotheses. Perhaps the most popular way of trying to settle on estimates of the priors is by evaluating the simplicity of a hypothesis, though this is by no means a straightforward issue (Swinburne 2004: ch. 5; Miller 2016). Perhaps the biggest challenge, however, is as follows. There is considerable difficulty in achieving consensus over the extent to which individual items in the cumulative case lend support to theism, and when the case gets large and complex, there are increasingly many points at which disagreements can enter in, all of which raise the question: Is the formal apparatus really helping us get clearer on things at the big picture level, or are we ultimately thrown back on something more impressionistic? Do we ultimately still have to resort to a holistic judgment about which metaphysical picture makes best sense of everything?

This brings us to informal approaches to developing a cumulative case. Advocates of such approaches are usually motivated by concerns of the sort just outlined regarding the inescapability of employing some sort of holistic, sense-making judgment. Defenders of such an approach include Basil Mitchell (1973) and William Abraham (1987). Paul Draper (2010) has sketched the outlines of what he calls an “emergent” cumulative case, which similarly lacks a formal framework. Draper’s approach asks us to consider whether, when one steps back from the details and surveys a whole range of striking phenomena (consciousness, morality, cosmic fine-tuning, religious experience, etc.), it is more plausible to regard them all as being ultimately illusory, as naturalism requires, or instead to take them at face value. The advantage of an informal approach is that it can incorporate evidence of any kind – including non-propositional evidence, if such a thing exists – owing to the absence of a formal apparatus that may or may not be well suited to appreciating the force of various types of evidence. The obvious concern is that such an approach lacks the precision that philosophers are so keen on. But perhaps the lack of precision is simply an appropriate acknowledgment of the artificiality of attempting to fit a vast array of considerations regarding the nature of ultimate reality into a neat, formal framework. At any rate, an informal approach to constructing a cumulative case is surely the truest to how we do, in reality, choose a worldview.

1.4 The Problem of Accessibility

Being able to evaluate NTAs requires a measure of philosophical training. If one needs to be able to evaluate NTAs in order to gain any epistemic benefit from them, then those without such training – the majority of religious believers – are not in a position to derive any epistemic benefit from NTAs.

This is an unfortunate situation, because even if one can have justified religious beliefs that are not based on NTAs – and the debate about that issue rumbles on¹⁰ – it is highly plausible that the justification for one's beliefs can be substantially increased by NTAs. This is what might be termed the problem of accessibility.

One can discern three basic responses to this problem. The first is simply to affirm it: those without philosophical training cannot benefit from NTAs. The second is to hold that laypeople can gain epistemic justification derivatively from philosophical experts in their communities. A third position is to view laypeople as being able to have an intuitive grasp of the data to which many NTAs appeal, and thus as being able to gain epistemic justification from having cognitive contact with the features of reality that are the basis for NTAs. The first of these positions needs little elaboration. Let us consider in more depth the second and third positions.

It is natural to think that laypeople can be justified in holding some beliefs for which they themselves are not able to evaluate the evidence – the belief that electrons exist, for example – provided they are aware of the existence of experts in the relevant fields who do understand the evidence and view it as supporting the belief in question. The vast majority of a typical layperson's scientific beliefs are like this. Some have suggested that something similar might hold for religious beliefs (Wykstra 1998, 2002).¹¹ The obvious challenge to this position is that there is known to be substantial disagreement among the relevant body of philosophical experts concerning the cogency of NTAs. That is not to deny that some of the premises of some NTAs enjoy a wide consensus of expert opinion – for example, the S5 rule in modal logic, which is a premise of the modal ontological argument. But it is also fairly clear that no such consensus exists when it comes to the overall evaluation of any given NTA's success or failure. It should be emphasized that this is also the case for the vast majority of interesting philosophical debates that one could care to name.¹² All in all, it is hard to see the situation for religious beliefs as being closely parallel to the situation for belief in electrons when it comes to the potential for gaining justification simply by trusting experts. With that said, whereas the barriers to a layperson gaining firsthand acquaintance with the evidence for electrons are very high, they are somewhat lower when it comes to evaluating some (though not all) of the arguments for God's existence.

¹⁰ See Chapter 3 of this volume.

¹¹ Wykstra's position is a nuanced one, in which believers need some firsthand contact with evidence that supports their beliefs, but believers can legitimately rely on experts to help them counter certain kinds of defeaters.

¹² Indeed, theism could be said to be in a better situation than many philosophical views under consideration today in terms of the sheer quantity of distinct arguments that have been put forward in its defense (Poston 2018).

The basic idea with the third position is that the data which serve as the premises for NTAs are in fact widely accessible to ordinary people, even if the technical formulations of those data developed by philosophers are not. The foremost defender of this view, C. Stephen Evans (2010), highlights several examples of what he terms “natural theistic signs,” that is, experiences that the vast majority of people have, which bring them into cognitive contact with the data that serve as the basis of various NTAs: a sense of “cosmic wonder” that there should exist a world at all (cosmological arguments); the apprehension of apparent providential order in the world (teleological arguments); and an awareness of objectively binding ethical obligations and of the infinite worth of human persons (moral arguments). I would add another: awe at the fact of conscious experience, and its oddity in contrast to the world of unfeeling physical matter (arguments from consciousness).

There are a couple of suggestions on offer as regards how exactly it is that someone who is aware of one of these theistic natural signs might thereby gain epistemic justification for her religious beliefs. One suggestion is that an experience of a natural theistic sign might serve as the trigger for someone to form a basic belief in God (i.e., a belief that involves no inference at all), which arises spontaneously in something like the way that a belief that your friend is sad is triggered by your experience of seeing her tear-stained face. The possibility of gaining justification in this way depends upon the truth of a theory of epistemic justification on which there are such things as properly basic beliefs (beliefs that are justified despite not being based on inferences) and on which experiences of the sort at issue can serve as an appropriate stimulus for a properly basic belief.¹³ Another suggestion is that someone might make an informal inference (perhaps unconsciously) from a natural theistic sign, akin to the sort of quick and unconscious inference we make in everyday life all the time, for example, upon observing that a home’s curtains are drawn and the driveway is empty, one concludes that the occupants are away. The possibility of gaining justification in this way depends upon the truth of a theory of epistemic justification on which an inferential belief can be justified even if the person does not fully grasp the way in which the evidence supports the belief, provided that it does in fact support it.¹⁴ Given that both of these suggestions comport with views in contemporary epistemology that are fairly widely held, the prospects for this sort of response to the problem of accessibility look bright.

¹³ The view known as phenomenal conservatism, which is an increasingly popular version of internalism about justification, holds that if it strongly seems to you that *p*, then you are *prima facie* justified in believing that *p* (see Tucker 2013). Phenomenal conservatism is compatible with someone’s having a properly basic belief that is non-inferentially prompted by awareness of a natural theistic sign.

¹⁴ Conee and Feldman’s (2004) influential version of internalist evidentialism allows that someone can be justified in believing *p* on the basis of evidence *E* without grasping the evidential support relation between *E* and *p*, so long as such a relation does exist.