Skeptical Theism, Abductive Atheology, and Theory Versioning¹ Timothy Perrine and Stephen J. Wykstra

Abstract: What we call "the evidential argument from evil" is not one argument but a family of them, originating (perhaps) in the 1979 formulation of William Rowe. Wykstra's early versions of skeptical theism emerged in response to Rowe's evidential arguments. But what sufficed as a response to Rowe may not suffice against later more sophisticated versions of the problem of evil—in particular, those along the lines pioneered by Paul Draper. Our chief aim here is to make an earlier version of skeptical theism more responsive to the type abductive atheology pioneered by Draper. In particular, we suggest a moderate form of skeptical theism may be able to resist Draper's abductive atheology.

What we call "the evidential argument from evil" is not one argument but—like the Mafia—a family of them; its members go back to the formulations of William Rowe—the godfather of the family—in his 1979 "The Problem of Evil and some Varieties of Atheism." Wykstra's early versions of skeptical theism emerged in response to Rowe's evidential arguments. But, as they say in The Family, you've come a long way, baby. What sufficed as a response to Rowe may not suffice against later more sophisticated versions—in particular, those along the lines pioneered by Paul Draper.²

The atheological sophistication has increased in both data and norms. Whereas Rowe's data consists largely of "noseeum" features of suffering in our world, Draper appeals to a richer body of data—to, as Hume puts it, "that strange mixture of good and evil which appears in life." And whereas Rowe's inferences from this data relied on relatively simple *inductive* norms, Draper relies on the more complex *abductive* norms implicit in how we evaluate rival scientific hypotheses by their simplicity, their degree of "predictive fit" with the empirical data, and so on. Draper's case thus illustrates what we may call *abductive atheology*.

Our chief aim here is to make an earlier version of skeptical theism more responsive to the type of abductive atheology pioneered by Draper. Like most versions of skeptical theism, Wykstra's version relied on two types of principle. The first, broadly epistemological, is the principle formerly known as CORNEA—an unprincipled acronym for the *Condition of ReasoNable Epistemic Access*. In Delphic phrasing, CORNEA says that what we can't see can't hurt your theory, so long as it's something you shouldn't expect to see even if it's there. The second principle is broadly *theological*: that the theistic God, if such a being exists, often acts with a view to goods of such ontological depth as to be beyond our ken.

These principles seem to us—as to Draper³—to undercut any simple inductive inference from Rowe-style noseeum data. But, as Draper does not hesitate to point out, they seem to make theism all the more vulnerable to a Draper-style *abductive* argument. For that "strange mixture of good and evil" that we actually find in the world seems far more predictable on a suitable rival

¹ Thanks to Ric Otte, an anonymous reviewer, and members of Calvin College's Tuesday colloquium for helpful comments.

² See Draper (1989, 2009) and Dougherty and Draper (2013).

³ See Draper's contribution to this volume.

non-theistic hypothesis than on a skeptical version of theism that, by emphasizing divine inscrutability, undercuts our ability to form any expectations about that "strange mixture"—in amount, types, and distribution—of good and evil that we find in the world.

In Section I, we review both a recent formulation of Draper's abductive argument and a recent dispute between Richard Otte and Draper about a key feature of Draper's argument. Otte faults Draper for basing the argument on a highly generic version of theism; this, Otte thinks, makes the argument irrelevant to those ordinary theists who embrace theism in some more specific version—say, that standard version of Christian theism that C.S. Lewis calls "Mere Christianity." Our analysis shows that in the dispute as formulated so far Draper has the upper hand: his abductive atheological argument, though indeed generic, cannot be deemed irrelevant by "special theists," for if its premises are true, then insofar as they make generic theism *prima facie* improbable, they do the same for any special version of expanded theism.

Section II, however, finds in Otte an embryonic insight that, nurtured by an *en passant* concession of Draper's, allows a phoenix to rise from the ashes of Otte's first formulation. Expanding this concession, we bring out a key way in which the progressive *versioning* of a generic hypothesis allows one to identify relevant background information that, under specific probabilistic conditions, gives some versions of theism ascendancy over other versions. This versioning depends on updating theism in the light of the full range of relevant evidence, but doing this intimately interacts with our evaluation of whether so-called "generic" theism fits the range of data to which abductive atheologians are calling our attention. This *interactive* aspect, we argue, is crucial to correct conduct of the abductive investigation to which Draper's challenge calls us.

In Section III, we put the methodological insight to substantive use in two ways. First, we argue that any good abductive inferences need thick data—thick both quantitatively and qualitatively—and that the abductive atheologian has yet to provide such thick data. Secondly, and more importantly, we argue that understanding the "versioning" of theism requires avoiding extreme versions of skeptical theism, opting instead for certain theses that define a *moderate* skeptical theism that affords not merely a defensive resources against the premises of some abductive atheological arguments, but also a constructive, positive project by which we may slowly discern—as if seeing through a mist—more of God's purposes in the surprising complexity of the world in which we find ourselves.

1. The New Abductive Atheology: Draper's Humean Approach

We take abductive atheology to be a species of abductive metaphysics, seeking to harness abductive inference—the inferential engine that drives theoretical discovery in science—as a means of evaluating metaphysical hypotheses like naturalism or theism. Abductive inference—broadly speaking, inference to the best explanation—is here understood as both *explanatory* and *contrastive*. It is explanatory in that it moves from judgments about the degree of explanatory fit with data to conclusions about the probable truth or falsity of a hypothesis. It is contrastive in that these judgments concern two or more rival hypothesis, using comparisons of explanatory fit to lower or raise the relative probabilities. Draper, like Richard Swinburne, sees abductive confirmation and disconfirmation as conforming to, or at least illuminated by, the probability calculus—and in particular of Bayes' theorem. He also, like Swinburne, sees explanatory fit as involving both simplicity considerations and predictive fit with data.

1.1. Draper's Humean Case

Draper's case applies abductive inference to metaphysical hypotheses that he calls "theism," "supernaturalism," and "naturalism," defined as follows: 4

Theism =df. There exists a divine mind that is wholly good, omniscient, and omnipotent, and on whom the physical world is asymmetrically dependent for it origin and continuing existence.

Supernaturalism =df. The physical world either doesn't exist, or does exist but is asymmetrically dependent on the existence of the mental world.

Naturalism =df. The mental world either doesn't exist, or it does exist but is asymmetrically dependent on the existence of the physical world.

The relevant data that Draper uses for his abductive inference is what he calls "the data of good and evil," which he explains as follows:

The Humaan data (of good and evil) =df. What we know about the "distribution and relative quantities of (physical) pain and pleasure, flourishing and floundering, virtue and vice, and triumph and tragedy."

Using these definitions, Draper formulates his argument (with our own premise-labels) as follows:

P1 [SIMPLER] Naturalism is much simpler hypothesis than theism.

P2 [FITTER] Naturalism has a better predictive fit than theism regarding the data of good and evil.

P3 [NO-OFFSETTER] There are no epistemic advantages that theism has over naturalism such that those features, when combined, suffice to offset the epistemic advantage naturalism has over theism if (P1) and (P2) are true.

C1 [FALSER] So, theism is probably false.

Our focus will be especially on Draper's FITTER. But three overall features of Draper's argument merit comment.

First, we note that while Draper's premises are all positive—about the relative merits of naturalism—his conclusion is negative, claiming not that naturalism is probably true, but only that theism is probably false. While Draper's argument is thus an inference against the non-best explanation rather than an inference to the best explanation, it remains subject to the same abductive standards

Second, we note that his conclusion—FALSER—claims only that theism is disconfirmed by the data of good and evil in the sense of being "probably false," which he elsewhere puts by saying that theism has a probability of below .5.⁵

⁴ Here we draw on Draper's recent formulations in Dougherty and Draper (2013).

⁵ As he formulates it here, Draper's conclusion does not make explicit what role or force FITTER has in sustaining the conclusion: the conclusion here is not that theism is made less probable by the data, but only that theism is improbable on the data and its lack of relative simplicity. However, he gives other formulations (e.g., Draper (1989: 331)) that make explicit the probability-lowering power he attributes to Humean data: the data is strong evidence in that it increases by many times the ratio of the probabilities of a non-theistic hypothesis to that of theism. His most important and formidable claim is that the Humean data is in this sense an important type of "levering evidence." While this is not strictly part of, or entailed by, FALSER, we regard it as his most important and formidable claim, and take FALSER to be piggy-backing on it. Draper's distinction between "strength" and "significance" of evidence illuminates how his type of levering evidence is distinct from a related type of evidence, as staked out in Wykstra and Perrine (2012: 380-2).

Third, we note that Draper's agenda allows him to give only a promissory-note defense of his NO-OFFSETTER premise. For Draper's real agenda, on our reading, is to establish that his "data of good and evil" are potent *prima facie* disconfirming evidence —that this data-basis does constitute weighty abductive evidence against theism, such that *unless* there is even more weighty offsetting evidence favoring theism, theism is out of the alethic running—or at least not in first place. While Draper sketches his reasons to think that theism gets no offsetting advantage from natural theology or a Calvinistic *sensus divinitatis*, we take his real aim to be showing the *prima facie* relevance of his Humean data.⁶

1.2. Draper's Case for FITTER

Draper FITTER premise claims that naturalism fits "the data of good and evil" better than does theism. This empirical data, he says, consists of "what we know" about the "distribution and relative quantities of (physical) pain and pleasure, flourishing and floundering, virtue and vice, and triumph and tragedy." While this data is presumably empirical, he does not specify what it is that we do know about these things, or rely on any quantitative studies of such relative quantities or distribution. Moreover, facts about goods and evils that seem to fit theism better than naturalism—the capacity to find pleasure in the aesthetic beauty, for example—are, he says, relevant to the NO OFF-SETTER premise but not to FITTER. This may seem to reduce FITTER to the tautological claim that naturalism has a better fit than theism with that body of data about good and evil that does not fit theism better than does naturalism. Regardless of how we should settle what is contained in the data of good and evil, we take Draper's point to be that the body of data is quite sizeable.

To support FITTER, Draper asks us to imaginatively consider two alien beings who are "much like us in intellectual ability" and very long-lived. One of these aliens—Natty—is a naturalist; the other—Theo—is a theist. By direct observation, they watch the entire course of biotic evolution on our planet, and in this way gradually acquire the same (but no more) empirical knowledge as we humans have acquired by our empirical sciences. At various stages of evolution, Natty and Theo make predictions about what is likely, by way of various goods and evils and their distribution, at the next evolutionary stage. Draper's claim is that at each stage *Natty's* predictions will be much superior to Theo's.

Thus, suppose that Natty and Theo have, over millions of years, observed the slow evolution of plant life, and know the ratios of flourishing and languishing of seed-bearing plants. They now observe the first emergence of *sentient* life—life able to experience sensations, pain, and pleasure. What will they each predict about its flourishing and languishing? Draper claims that Natty—but not Theo—will predict that in sentient life, one will find about the same range of flourish-to-perish ratios as already observed in the plant kingdom, where, as most gardeners well

⁶ Indeed, in previous formulations of his argument (1989, 2009), Draper does not have a NO-OFFSETTER premise, merely concluding that "other evidence held equal, theism is very probably false" (2009: 343).

⁷ For instance, Draper writes, "Theists might also object to [FITTER] by pointing out that the data of good and evil entail the existence of complexity, life, consciousness, moral agency, etc., and that these things are evidence favoring theism over naturalism. This objection, however, is based on a misunderstanding of the argument. I assume that the existence of these things is part of the background information relative to which naturalism's and theism's predictive power with respect to the data of good and evil is assessed. In other words, Natty and Theo acquired such data before they begin making the predictions discussed above. Thus, these other data are relevant to [NO-OFFSETTER], not [FITTER]" (Dougherty and Draper (2013)).

know, this ratio tends to be depressingly small. For other things being equal, we should inductively project those same depressing ratios for sentient life as for plant life.

Now, for Natty, other things *are* equal, for as a naturalist, Natty accepts a "hypothesis of indifference," that there is no guiding mind behind the universe that seeks to promote the good or hinder the bad. Theo, by contrast, sees the material universe as created and sustained by a Mind that cares about good and evil. Since sentient beings have the capacity for the great good of having moral standing, and God will or may *see* this as a great good, Theo will have far less confidence in any prediction that flourishing-to-perishing ratio among sentient life will be as low as that found in the plant kingdom. The rough idea, we take it, is that since a sparrow is of much more value than an ant or a maple seedling, Theo (but not Natty) will be rather diffident about predicting that baby sparrows will languish (or perish) to the same extent as do baby ants or maple seedlings. In such ways—not necessarily in content, as we read Draper, but in degree of confidence—many of Theo's predictions will differ from Natty's. And since Natty's confident predictions will at each successive stage turn out true (or so Draper's argument supposes), Natty's hypothesis will again and again prove to fit the facts better than do Theo's.

The same, Draper argues, occurs with respect to predictions of Natty and Theo at other stages of evolution. As each new grade of life emerges, the background information about earlier grades of life will itself sanction certain probabilistic predictions about how goods and evils will be distributed; and theism—but not naturalism—will again and again give one reason to hedge on these background predictions. As Draper puts it, "the assumption that theism is true, but not the assumption that naturalism is true, undermines the justification for certain (accurate) predictions based on Theo's and Natty's shared background information." After this disparity in predictive power is repeated for four or five rounds, those rooting for Theo will beg for the towel to be thrown in; Natty will be left standing (in this particular ring) alone.

But, as it goes for Natty and Theo, so also for us, for Draper's imaginative scenario aims to bring out the important logical differential in the predictive bearing of naturalism and theism. Draper's thesis is even if a hypothesis of indifference does not *of itself* predict much, it acquires superior predictive fit theism by not reducing or interfering with—as does theism—the considerable probability one can place in straight projections from empirical background information.

1.3. The Standoff over "Special Theism"

In Draper's abductive argument, the explicit objects of his abductive evaluation are theism *simpliciter* and naturalism *simpliciter*. His abductive approach is, in this sense, a highly *generic* one. But a vast legion of theistic believers—the varied stripes of Christian (or Jewish or Islamic) theists— are what we might call "special theists." What they embrace is theistic core claim supplemented with further specifying claims—claims about human nature, about God's disposition toward humans, about God's manner of working in the universe, and so on. One tempting objection is that Draper's argument is irrelevant to any expanded version of theism that, by conjoining theism with specifying claims (such as the fallenness of nature, the depravity of humanity, the importance of free will, etc.), is able to fit Draper's Humean data just as well as does naturalism. The charge, on this line, is that Draper's abductive argument poses an evidential

⁸ For the hypothesis of indifference, see Draper (1989: 332f. 2009: 343; 2013).

⁹ Dougherty and Draper (2013).

challenge only to "generic theists"— those holding to an ecumenical theism unalloyed with, and unencumbered by, any more specific doctrines.

Something like this idea is found in Richard Otte's critique of Draper's Humean case. ¹⁰ One of Otte's claims, at least on Draper's reading (2009: 347), is thus that:

while the Bayesian arguments may create epistemic problems for generic theists (i.e. for theists who do not accept any specific revealed religion), they do not create any epistemic ¹¹ problems for Christian or Jewish or Muslim theists, especially since the evidence statements to which Bayesian arguments typically appeal are entailed by (and thus antecedently certain on) these sectarian religious hypotheses.

A rationale for this idea might even be found in Bayes' theorem. Applied to this case, ¹² Bayes' theorem says that the probability of special theism on the data of good and evil—" $P(ST \mid O \& k)$ "—is equal to the probability of special theism alone—" $P(ST \mid k)$ "—multiplied by the Keynesian relevance quotient—" $P(O \mid ST \& k) / P(O \mid k)$ "—which is the hypothetical probability of O on hypothesis H divided by its "background expectability" on our background knowledge alone:

$$P(ST \mid O \& k) = P(ST \mid k) * \left[\frac{P(O \mid ST \& k)}{P(O \mid k)}\right]$$

Now, if special theism (ST) "contains" or "implies" the data of good and evil (O), 13 then the probability of O on ST is 1:

$$P(ST \mid 0 \& k) = P(ST \mid k) * \left[\frac{1}{P(0 \mid k)}\right]$$

But O can *decrease* the probability of ST only if the value of the Keynes' quotient is *under* 1. This can't happen when the numerator is 1, for in that event, even when the denominator is at its maximum of 1, the quotient will be 1, so that probability of ST on O and k will be equal to its probability on k alone:

$$P(ST \mid 0 \& k) = P(ST \mid k) * \left[\frac{1}{1}\right]$$

So, it might appear that Draper's data of good and evil cannot (we might say) "make improbable" some such special version of theism—or, putting it more precisely, cannot make special theism any more improbable than special theism was to begin with. So, one might

¹⁰ Whether or not Otte holds the view we intend to criticize is an exegetical issue we need not settle here.

¹¹ We think that by 'epistemic problem' here Draper means 'alethic problem'—as opposed to other epistemic problems one might raise for theism (see Draper (2009: 333)).

¹² On this usage of Bayes' theorem, see our (2012: 386).

¹³ It is, of course, unlikely that any version of theism held by actual theists entails O in all its details (including, say, that Tim's cat Bourbon had a particularly painful flea infestation in the summer of 2012). In countering Draper, the special theist would claim may more modestly claim that such details in the data of good and evil, while perhaps improbable on her version of theism, are about equally improbable on non-theistic rivals that are live contenders.

conclude, Draper's argument, with its appeal to the data of good and evil, leaves untouched any special theism of the sort Otte describes.

Draper finds this response otiose, claiming that as long as the "generic argument" has true premises and no faulty steps, and so gives us strong reason to think that *generic* theism is improbable, then it *also* gives us—*thereby*—equally strong reason to think that any *expanded version* of theism—in our terms, any special theism—is *just as* (or more) improbable. ¹⁴ This rejoinder, we think, has its strongest rationale in the Special Consequence Condition of the probability calculus. The Special Consequence Condition says that if any proposition A entails, as a consequence, proposition B, then if B has a low probability on some evidence, A has probability that is equally low or lower. ¹⁵ From this it follows that if we concede the Draper's premises are accepted, their conclusion applies as much to special versions of theism as to generic theism.

We find Draper's response right. To be sure, Otte is right that if some special theism 'contains' the data of good and evil, then that version of theism is not made less probable by that data: the special version is not any less probable on that data than it is to begin with. But if Draper's premises do show that generic theism is—other information, as he likes to say, "held equal"—improbable on that data, then they also show the special version is similarly improbable. In one of the earliest Wykstra-Rowe skirmishes, this point was illustrated as follows. 16 Imagine that while on sabbatical at Notre Dame, Wykstra occasionally attends a mid-week Mass. This leads a graduate student to surmise that Wykstra is Roman Catholic. The student then learns that Wykstra teaches at Calvin, and each Sunday worships and takes communion at a local Christian Reformed Church. The student realizes this new data seems to greatly lower the probability of the hypothesis that Wykstra is a Roman Catholic. But to protect the hypothesis, the student adds the auxiliary claim that Wykstra has a secret mission from the Vatican to cause yet further dissension and splitting within the Christian Reformed Church. This expanded hypothesis may now perfectly "fit" the data, making entirely predictable that Wykstra goes to a CRC church each week. So the hypothesis is no longer made less probable by this data. Nevertheless, this gain is really no gain it all, for the expanded version of the Catholic hypothesis, compared with the restricted hypothesis, is hugely less probable on our background evidence alone. What we've gained with our right hand, we've taken away with our left. As Rowe put it, it seems that as in economics, so also here: there's no such thing as a free lunch.

2. Probabilistic Foundations of Theory Versioning

But if Otte's objection is too easy, it's also too easy to draw the wrong moral from Draper's objection to it. For one might think the moral is that in abductive theorizing, one should stick to generic theories—that it is always a vice (indulged in only by those foolishly seeking a free lunch) to cope with challenging data by expanding through the addition of specifying claims.

If we've learned anything from science, it is that this moral cannot be the right one to draw here. In science, expansion is essential: it is how vague theoretical hunches become both explanatorily illuminating and empirically testable. While scientific theories start from what Hempel calls "general theoretical conceptions"—of light as a particle or as a wave, for example—such generic core conceptions get their explanatory power only as they are fleshed out

¹⁵ See, for discussion, Wykstra and Perrine (2012: 380-2).

¹⁴ Draper (2009: 347).

¹⁶ See Wykstra (2008).

with further *specifying* hypotheses about the sizes and motions of light particles (or waves), their interaction with the forces exerted by ordinary matter, and so on. We make theoretical progress only by the sustained effort, under the empirical and conceptual pressures that characterize science, to add specifying hypotheses to a core conception, so as to yield expanded theories from which we identify the best *current expanded versions* of a generic core conception, running these against the best versions of rival core conceptions. What keeps such expansive *theory-versioning* from lust for free lunching is that new versions both re-direct the search for relevant empirical data and increase the area and precision for contact—whether in concinnity or in conflict — between theory and experience.

Behind Otte's objection, we thus think, is the sound intuition that theory-versioning will be crucial to evaluating how Humann evidence bears abductively on theism. The challenge is to deploy this insight more perspicuously against Draper's abductive challenge.¹⁷

2.1. Draper's Concession

Our response to this challenge can be seen as an expansion of a point made by Draper. For in his discussions of Otte, ¹⁸ Draper concedes that it is in principle *possible* that some expanded version of theism might enable a theist to refute the Humean generic argument. This is, he says, because an expanded version of theism

may be relevant to the issue of whether [FITTER] is true.

But to successfully challenge his argument in this way, Draper thinks the theist would need to use the "precise method" of weighted averaging, expanding theism by adding some auxiliary doctrine S which, by meeting certain special constraints, is able to show—by the weighted average method¹⁹—the falsity of FITTER. Draper²⁰ illustrates this by imagining the theist discovering some auxiliary hypothesis like

(L) There is life after death

such that two conditions are met. The two conditions, put in our own notation, are as follows:²¹

- (C1) P(L/T & k) is very high, and
- (C2) P(O/L & T & k) is much greater than P(O/HI & k)

where 'k' is the relevant²² background information. Otherwise put, the two conditions are: the auxiliary doctrine is very probable on theism (and our background information), and the

¹⁹ By the "weighted average method," we take Draper to refer to the total probability theorem, on which the total probability P(H/k) of some hypothesis H is equivalent to the some disjunctive set of logically independent versions of H.

¹⁷ For the importance of theory versioning in the philosophy of religion, see Wykstra (2008, 2011) and Wykstra and Perrine (2008), in scientific theorizing, Wykstra (1996a).

¹⁸ Draper (2004; 2009: 347-8).

²⁰ Draper (2004: 49f.).

²¹ In his (2009), Draper formulates the conditions without including background information k. But we take him to be regarding P as what he, in other discussions such as (2004), refers to "epistemic probabilities," which on his conception reflect a person's entire "epistemic background situation" including the person's k. We prefer using a notation that gives k an explicit place in the probability expression.

²² In the context of using Bayes' theorem to evaluate incremental confirmation by some observed fact O, the "relevant" background knowledge k will not include O; instead it will—as Draper likes to put it—"abstract from" both O, and the experience, testimony, and evidence on which O is based. Draper here adopts a standard

atheological Humean data O are much more probable on theism conjoined with L (and our background information) than on the hypothesis of indifference (and our background information). Such a discovery would allow the theist, using the weighted average method, to show that Draper's FITTER is false.

Draper does not, of course, think the prospect of finding any auxiliary doctrine meeting (C1) and (C2) is bright. This pessimism, however, may be inflated by his formulation these two conditions. While Draper no doubt does not envision these conditions as necessary, but as either merely sufficient or perhaps just illustrative, we must note that they are considerably more than sufficient: L could show FITTER to be false by meeting far less stringent conditions. In particular, to show that FITTER is false, it will suffice if one finds a doctrine or set of doctrines L that meets condition C1 along with the much less onerous condition C2':

(C2') P(O/L & T & k) is roughly the same as P(O/HI & k)

Nevertheless, on the key point of dispute with Otte, we find Draper correct. The possible theistic response identified by Draper's concession differs fundamentally from the one that Draper finds Otte urging. For instead of dismissing the generic Human argument as irrelevant to the special theist, the approach counseled by Draper grants that the generic argument, if sound, is as damning for special theists as for generic theists. It thus undertakes to find a version of special theism that, by meeting conditions like C1 and C2 or C1 and C2', allows the theist to contest in a direct way the truth of one or more premises in the generic argument.

2.2. Non-Monotonic Interplay: On the Importance of Being a Version.

But behind Draper's correct point here, we believe, there is a new fundamental issue about how to conduct and evaluate the atheological abductive argument. In evaluating this argument, it will seem natural—especially for anyone raised on the milk of deductive arguments—to approach the premises in a one-at-a-time fashion. Taking that approach, one might first evaluate FITTER as true—holding that an atheistic hypothesis fits the data of good and evil much better than does theism—while postponing until later the task of determining whether NO OFF-SETTER is also true, which will require scrutinizing other data to see if it contains any "off-setting" evidence favoring theism sufficiently to offset whatever degree of unfavorable evidence is rightly alleged by FITTER.²⁴ This approach, however, is fundamentally wrong. The so-called second task cannot be so postponed, for close scrutiny of the "other" data is essential to evaluating whether FITTER itself is true. And it is essential precisely because of the importance of theory versioning.

Bayesian approach to "the problem of old evidence" that, while not without critics, seems to us fundamentally right: see Howson and Urbach (2006: 297-301).

²³ We do not mean to suggest that Draper claims that satisfying (C1) and (C2) are necessary conditions for showing the falsity of FITTER. He does not. His point is just that if L did in fact satisfy C1 and C2, this would enable one to argue that FITTER is false, and that arguing this would require using the weighted average method.

We're not implying that Draper would disagree with any of this; neither, however, have we any sense that he agrees with it. Draper's concession to Otte, and the important things he has to say about theodicies elsewhere, certainly put him in close range of the line we're taking here. At the same time, other things he says—Draper (2009: 339)—seem in stark tension with it, and are easily read as entailing a one-step-at-a-time approach on which we can first determine whether or not the data of good and evil provides good *prima facie* reason for rejecting theism, treating this as independent of the evaluation of other evidence that bears favorably on theism. His comment (2013: XXX) seems especially consonant with this "one thing at a time" approach.

To see why, an illustration from toy history of science seems to us à *propos*. Imagine two physicists, Smooth and Grain, who—perhaps around 1880—disagree about the ultimate continuity of matter. Smooth thinks that matter is fundamentally continuous: any portion of a solid or liquid is at bottom continuous, or "smooth," so that in any sample, however small, one can always slice the sample through any cross section one chooses. Grain, in contrast, thinks solids and liquids are ultimately granular—made up, at bottom, of small 'grains' such that physical slicing will always be between the grains, rather than through them.

Now suppose Smooth adduces, in support of his theory, the stages of experience we've had in physically seeing and slicing matter at increasingly fine levels (call this data 'e1'). For we have been able to slice a sample at any point down to the finest portions our technology allows us to see and manipulate, and this has been so at each stage of development. At each stage, our background information will predict the same will hold for the next stage, and Smoothism does not at all undercut this prediction. Granularism, in contrast, gives reason to think that at some stage—perhaps the next one—this will not be so, and thus time after time dampens the confidence of such predictions. The empirical data thus has better predictive fit with Smoothism than with Granularism.

 ${\rm FITTER_S}^{25}$: The Smoothist hypothesis has, given k, very much better predictive fit with O than the Granular hypothesis.

Now this argument for FITTER_S is not to be sneezed at. It gains its force, however, from the fact that granular hypothesis, being stated generically, gives no specification at all of how small the ultimate grains of matter are. Considered a priori, after all, any size is possible. Suppose, however, that in our evaluating evidence favoring Granularism, we find (as indeed actually happened!) a body of data e2 that supports Granularism by way of supporting a specific version of it, one that adds specificity to the size of the "grains" of matter. For example, inspired by observations by Ben Franklin, Lord Rayleigh in the late 1800's calculated the thickness of a layer of olive oil spread over a pond, and found it to be on the order of a nanometer (a scant 10⁻⁹ m—one billionth of a meter!) thick. Thus, e2 gives strong support to the *conditional* claim

D: *If* Granularism is true, then the ultimate grains must be far tinier than any technology we can imagine will be able to see or manipulate. ²⁶

Here then is the key point. Data pool e2, supporting Granularism by way of supporting D, can rightly lead us to reject FITTER_S as false, For once Granularism is expanded by, on good evidence, adding Doctrine D to it, we see that Granularism has²⁷ equally good predictive fit with the slicing data as does the Smoothist hypothesis: for we see that neither hypothesis "interferes" with the successful predictions arising from past projections from the different stages of our slicing operations. Data e2, by helping specify one version of Granularism as more probable than all other versions together, makes slicing data e1 something that does not even *need* to be offset—for it shows that FITTER_S is not in fact true.

²⁵ In this section the premise-names are understood to take a subscript "s", since they are the abductive-schema premises as applied to the generic Smoothist hypothesis in relation to its granularist rival.

²⁶ If it is *more* than one grain thick, then "grains" are even smaller. Other empirical data from widely different sources the same conditional.

²⁷ This is *toy* history of science. Readers can easily flesh out possible-world details that give a model of how "other data" wrongly shunted to "NO-OFFSETTER_s" evaluation turns out, by strongly supporting one version of gradularism, to expose the falsity of FITTER_s.

We thus see that in the conduct of an abductive argument like Draper's, any evaluation of FITTER *cannot* shunt to a later stage the "other evidence" relevant only (it will be said) to evaluation of NO OFF-SETTER. And this is precisely because that "other evidence" favoring the alleged underdog hypothesis is vital to determining what versions of that hypothesis are the *leading* versions, the most probable versions, of the underdog theory. To the extent that one does have—or has not evaluated—relevant evidence about *this* matter, any judgment one makes as to the truth of FITTER will have little evidential *weight*. In abductive inference—as is characteristic of non-monotonic reasoning the evaluation of the premises is interactive: evidence one might be tempted to shunt off to NO-OFFSETTER is intimately connected with evaluating the truth of FITTER.

3. The Versioning of Theism: Toward a Sensibly Skeptical Theism

The question motivating this essay is whether skeptical theism³⁰ is relevant, not just to Rowestyle arguments from evil, but also to abductive challenges of the sort posed by Draper's abductive atheology. Against Rowe-style arguments, the relevance was obvious. For there, the basic argument was that our *not seeing* any good justifying a theistic God in permitting various evils is strong evidence for there *not being* any such good. In response to such inferences, the skeptical theist presses:

Look, if the theistic God exists, it's entirely expectable that we'd often be unable to see the goods for which many evils are allowed. To see these reasons, we'd need to see at least three things. First, we'd need to see the actual (or potential) Goods and Bads³¹ that he seeks to further or inhibit. Second, we'd need an accurate grasp of God's weighting of these Goods and Bads. And third, we'd need an accurate sense of their connections with this particular event of suffering, as well as any other connected events that instantiate these Goods and Bads. But given the limitations of our own cognitive powers, and in view of what sort of being it would take to create and sustain our universe, it is entirely expectable that we'd often be not see such things.³² And this—by the well-known principle formerly known as CORNEA—means that our *not seeing* them there is counts little for their *not being* there.

Note that this response rests on two sorts of claims. The first are broadly *epistemological*, averring particular epistemological principles like CORNEA, which are urged as plausible for a wide range of cases. The second fall in the domain of philosophy of religion—or perhaps more aptly, philosophical theology: these claims address questions that are in a broad sense *ontological*, about the existence and nature of goods and evils *and* about the degree of access that we, as finite human beings, have to such things. To ask how skeptical theism is relevant to

³⁰ Or, more cautiously, versions of skeptical theism by which Wykstra resisted Rowe-style arguments.

²⁸ Compare Keynes (1921 [2004]: chp 8).

²⁹ Compare Adams (1998: 8).

³¹ We use uppercase "Goods" (and "Bads") to signal that we're talking about types, not tokens that instantiate these types in specific events, relationships, activities, and the like.

³² Given the possible axiological depth of a world created and sustained by a theistic God, we should be pretty diffident about how fully and clearly we'd see any of these three things, much less all of them. On the "axiological depth" rationale see especially Russell and Wykstra (1988) and Wykstra (1996: 139ff)

Draper-style evidence is to ask how both sorts of principles is relevant to them. Section 3.1 addresses how the first sort is relevant; Sections 3.2 and 3.3 do the same for the second.

3.1. Non-Monotonic Interaction, Thin Data, and the Burden of Argument

Rowe's argument from evil appealed to a piece of data that was relatively simple and that many of us are familiar with. (Indeed, this was part of the power of Rowe's argument.) By contrast, Draper's argument does not focus on such a simple feature of evil. Rather, Draper's data, O, is *the* data of good evil; O reports "what we know about the facts of good and evil." We take him to mean this seriously, so that O contains all we know about pain and pleasure among sentient animals, about tragedy and victory in human life, about flourishing and languishing among plants, insects, animals, humans, and so on. So taken, the information in O would, we surmise, perhaps fill a Britannica-sized set of volumes labeled *EGE*: *The Encyclopedia of Good and Evil*, with entries on the Boxer Rebellion, the first Woodstock festival, research on the behavior of fish with cut lips when offered food containing pain-killers, and of humans and other creatures lethally burned in firestorms, whether arising accidentally as in the of Mann Gulch forest fire of August 5 1949, or produced deliberately, as by the air-bombing of Dresden by the British on February 14 1945, or of Tokyo by the Americans less than a month later.³³

When we turn to Draper's arguments, however, we find nothing like this. We find nothing very specific about the distribution of tragedy or triumph among the plant, animal, and human population—no concrete data regarding, say, the percentage of baby ants that perish before their prime, compared with the number fawns that do so; of, for most human beings, the overall number of minutes of intense pain compare with the number of minutes of well-being and even pleasure; or of how often the sustained effort to cultivate a moral virtue leads to increased flourishing, compared with how often it leads to tragedy and suffering. So far, what data Draper offers seems to us very thin data—a modest assortment of arm-chair science generalizations that would perhaps take up but a paragraph or two in the *Encyclopedia of Good and Evil (EGE)*. 34

But if we lack thick data, it seems to us clear that any empirical judgment we make about the truth of FITTER will have little evidential weight, for we have then little basis for a relevant "weighted-versioning" (using the weighted average principle) of the disjuncts within the two generic hypotheses that are mentioned by FITTER. The degree to which we are well-situated to evaluate FITTER, we think, depends heavily on how extensively we have collected and used background information so as to formulate the best disjunctive versions of generic theism (and naturalism), *and* to estimate the probabilities of each on our background information, *and* to determine the conditional probability of O on each of them. For each of these things is needful if we are, by the weighted average principle, to make any well-founded judgment about likely O on either theism or on naturalism.

Furthermore, a critical issue in the dialectical situation, we think, is whether the burden is here on the theistic defender, to find some version of theism that—perhaps by meeting constraints like C1 and C2 or C2'—gives good reason to think that FITTER is false. Once this issue is raised, we think the obvious answer is absolutely not. So long is it is abductive atheologians are

³³ On pain and lethal burn injuries, see Norman McClean (1992: xx-xxx); on using fire-storms to deliberately incinerate cities of civilians, see William Bryant Logan (2012: 162-166).

³⁴ Perhaps this is because his papers so far are meant as sketches of the form to be taken of a forthcoming more substantial cumulative argument from the detailed data, from the *Encyclopedia of Good and Evil*, that he takes to be most relevant.

propounding a positive argument here, it is *they* who must be well-situated to assert a premise like FITTER. If they are not in a position to say whether some versions of theism receives the lion's share of theism's background probability (and whether O has a high, middling, or low probability on that version), then they are in no position to aver that FITTER is true. A judgment based on data too thin to partition theism into theoretically fruitful disjuncts will have little evidential weight.³⁵

3.2. Theory Versioning and Moderate Skeptical Theism

But some theists—especially evidentialist theists, including evidentialist *skeptical* theists—may well want here to be pro-active here. They will want to investigate what "versioning" of theism might most illuminate and absorb the type of Humean data toward which Draperian abductive atheology is gesturing. Without pretending to do more than sketch a project, we here indicate the type of theistic versioning that seems the most promising.

The versioning of generic theism—as for any broad core conception—will turn on what sorts of specifying auxiliary claims can be found which, when conjoined with the core theistic claim, partition theism so as to yield theoretically fruitful disjuncts. This quest will not merely conjoin the *empirical* data O with the theistic core claim, for this has no explanatory value, and falls immediately to the Secret Vatican Agent casuistry described earlier. Instead, it will seek auxiliary *theoretical* claims that, when conjoined with the core claim, yield special versions of theism that illuminate and fit the data we already apprehend, while also anticipating those portions of the data of good and evil that we have not yet investigated.

We can usefully distinguish some of these auxiliary claims into two broad categories—ontological and epistemological. The broadly ontological auxiliary claims will be about such things as the following: the purposes of God in creating and sustaining the world and in bringing about organic life of all sorts (but especially of human beings and other living creatures); the source of both human goodness and of human depravity; the need and possibility of redemption; God's mode of self-revelation to humankind; etc.

The "epistemological" auxiliary claims will posit appropriate cognitive attitudes to such ontological claims and their accessibility to us. This is not an all-or-nothing matter: here there will be a multi-dimensional continuum of possibilities, for these can range over a whole continuum (from the acidly skeptical to the naively non-skeptical) *over* a number of different sorts of "objects" to which we may have more or less epistemic access. Some of the object-dimensions are indicated by the following questions:

- Q1) What are the actual or potential Goods and Bads that God takes measure of in the divine actions and allowings?
- Q2) What, in God's correct reckoning, are the moral "weights" of these potential Goods and Bads?

³⁵ It is here important to bear in mind that while logical omniscient cognizers may have all possible disjuncts of a core theory lined up in her mind, and so may simply re-order them by re-conditionalizing on new data as it comes in, things are entirely different for finite *human* cognizers like *us*. For us, theoretical insight comes as new versions of a theory slowly swim into view. For us, reality typically discloses itself through conceptual breakthroughs (or masks itself through our conceptual muddles) by which new and verisimilitudeinous surprising theory-versions swim into (or remain out of) view.

Q3) What are the relevant connections, from the divine point of view, between instances of suffering and the correctly weighted Goods and Bads to which they (or the decision of whether to allow them) are connected?

For each of these ontological questions (as well as others lurking in the neighborhood) there will be a continuum of options concerning types and degrees of limitations conditioning our ability to answer these questions by discerning how things stand, both at a particular time and as new information is made available to us. Without putting too fine a point on it degree-wise, we can see the options in a rough way as follows:

	1. Unlimited Scope	2. Limited Scope.
A. No Access	1A. We should regard <i>all</i> answers to these questions as utterly inscrutable or aprobable. That is, we should not assign any probabilistic value to any answers to the questions (Q1)-(Q3).	2A. We should regard <i>only some</i> answers to these questions as utterly inscrutable or aprobable. That is, we should not assign any probabilistic values to some answers to these questions, but we can assign some to other answers.
B. Limited Access	1B. We should regard as very improbable our ability to answer <i>any</i> of the questions (Q1)-(Q3). That is, we should give a very low probability to any answer to questions (Q1)-(Q3).	2B, We should regard as very improbable our ability to answer <i>only some</i> of the questions (Q1)-(Q3). That is, we should give a very low probabilistic answer to some of the questions (Q1)-(Q3). But we could give much higher probabilistic answers to others of those questions.

With this family of versions of skeptical theism in view, we can now ask what sort of version gives promise of being theoretically resilient, even fruitful, with respect to Humean data of the sort. We propose a skeptical theism that falls in quadrant 2B—a version within the "limited access and scope" quadrant. More specifically, this "moderate" skeptical theism—perhaps better called *diffident* theism—will conjoin with theism (specified ontologically in some way) the following four *epistemic* theses:

(T1) We should be very confident in our ability to discern some of the Goods that God values. (Perhaps these include doing what is right, taking pleasure in the appropriate

_

³⁶ Part of the reason why we are drawn to this particular version of skeptical theism is that it seems to allow for the possibility of learning and updating one's theism—a feature we think is important for theism to have. Indeed, we are fearful that an "no access, unlimited scope" version of theism will have difficulty handling the FITTER premise.

things, relating to God properly, respecting others, etc.³⁷) Similarly, we should be very confident that God disvalues certain evils (Perhaps these include doing what is wrong, taking pleasure in the pain of others, disvaluing human life, hate, etc.) (That is, we should assign a very high probability that these are actual Goods (and Bads), that God values (disvalues) them, and that, for that reason, God wants us to do our part in helping instantiate them (or keeping them from being instantiated).)

- (T2) We should have middling to low confidence in our ability to discern the connections between the Goods we discern God as valuing, and his acts of allowing specific instances of suffering or evil. That is, we should have *some* confidence that there are connections that we should expect to see, but not be *too* confident to see all of them or even many of them.
- (T3) We should be maximally *uncertain* that we can discern *all* the Goods that God values, and the relative weights of those we can discern and those we can't. (We should be very diffident about our ability to discern how the weight of those God-valued Goods we can discern compares with the weight of those we cannot discern.)
- (T4) We should be maximally *uncertain* that we can discern all the connections hold between all the Goods God values and all God's allowings of actual suffering.

In light of these moderate claims, perhaps Wykstra's earlier "infant/parent" analogy should be reconsidered. Rerhaps the paradigmatic analogy for moderate skeptical theism is not an *infant*/parent analogy but *a young child*/parent analogy. A young child can appreciate some of the values of their parents ("they love me") and even participate in some of the projects of their parents ("it's good for me to watch my younger sibling while my parents cook dinner"). Nevertheless, the young child is in no position to understand or know *all* their parents' values, what their weights are, or even what their connections are to possible suffering (such as when the child's parents permit a painful stomach pump after the child has accidentally ingesting something poisonous).

3.3. The Bearing on "Updating" and C1 and C2

It is, we think, some such *moderate* skeptical theism that is best suited to the project of addressing data of the sort that abductive atheology brings to our attention. How moderate skeptical theism provides a context for this project is intimately related to the role of updating conditional probabilities in light of new evidence. In particular, it is important to see how, in Draper's earth-watching scenario, Theo might update her auxiliary claims in light of fulfilled or unfulfilled predictions at the various stages of her observations of Earth's biosphere.

Suppose, for example, that Theo, prior to her observation of the rise of sentient life on earth, gives a low probabilistic value to any version of skeptical theism, instead giving a high probabilistic value to (what we'll call) "naïve theism"—the view that we have, on a little reflection, ready access to—as they figure in divine decisions about what to allow and what to

³⁷ We take these as illustrative. As we formulate moderate skeptical theism, it is, by itself, neutral with regard to these "ontological questions." (Though, of course, its success to responding to Draper might eventually require specifying answers to those questions.)

³⁸ See Wykstra (1984, 1996b). For discussion of the "infant/parent" analogy, see Dougherty (2012).

prevent—all possible goods, their weights, and their connections to actual suffering.³⁹ Theo treats theism as equivalent to a disjunctive set of versions of theism, each version having a different probabilistic weight.⁴⁰ Letting T be theism and 't_x' some specific version of theism,

$$T = t_1 \text{ or } t_2 \text{ or } t_3 \text{ or } t_4 \dots \text{ or } t_n$$

Suppose we let the first disjunct, t₁, be naïve theism, to which Theo initially gives a much probability (say, .48) much higher than assigned to the other disjuncts (weighted at, say, .001).

$$T = .48 \text{ v } .001 \text{ v } .001 \text{ v } .001 \dots .001.$$

Now if Theo begins as a naïve theist, her initial prediction regarding the first forms of conscious life may well be along the lines Draper suggests: she'll think that since consciousness—including the capacity to feel pleasure and pain—is morally relevant to God, God will see to it that the distribution of flourishing and languishing among the first conscious beings would be importantly different from the distribution of flourishing and languishing among plants (for which 'languishing' does not, we suppose, involve pain.) Given this, Theo's predictions will not, in the initial round of predictions, fit the data as well as Natty's. ⁴¹ This means that Theo's naïve theism will receive quite a beating.

But how should Theo respond to this? Here's one such story as to how she might rightly reason:

I initially believed that God would think that suffering and pleasure are important, and are the main thing relevantly connected to the distribution of flourishing and languishing among these newly arrived sentient organisms. Now this seemed to get me in trouble. But this doesn't mean I should now become utterly skeptical about what it is that God values and disvalue. It suggests instead that I was naive in thinking I could see all the relevant goods and all the relevant connections. Chastened by my failed predictions, I now find two things much more likely than before. Epistemically, I see it is likely that we do not have such easy access to all the goods God values, and to all of their connections with present divine allowings. Some goods may be ones humans can't cognitively access at all; others may, in themselves or in their connections to present events, require patient strenuous inquiry for us to discern. And ontologically, I give greatly increased likelihood to the auxiliary claim that God values, in ways I didn't see before, a world governed by regular laws of nature, and a world with strong continuity in how organisms evolve from one level to another, so that there is a certain "functional integrity" to creation—either because such law-like continuity is good in itself, or because it is connected in ways I can't see to other great goods, whether ones I see or ones I don't see. Given my commitment to theism, and my

Dougherty, in Dougherty and Draper (2013), seems to suggest that there are various *a priori* considerations that Theo might very well have, and that given these considerations, Theo might not begin as a naïve theist. ("Seems to suggest" since Dougherty does not use the concept of a naïve theist.) This is an interesting suggestion, and while we are not necessarily opposed to the role of *a priori* reasoning affecting the versioning of theism, we do not have space to provide a full discussion of how *a priori* considerations—like the ones Dougherty raises—might impact versioning theism.

⁴⁰ The notation here is intended merely as a visual heuristic.

⁴¹ Again, we reminder the reader that we do not think that Draper is yet entitled to this conclusion since he has yet to provide thick enough data. We here only assume, for sake of discussion, that he is right.

new background information, I now see that a version of theism specified by auxiliary claims along these lines is far more likely than me earlier naive theism.

Suppose that on some such reflections as this, Theo shifts much of the probability she had assigned to naïve theism to a form of moderate skeptical theism. Very roughly, we can represent such a shift as follows, where the fourth disjunct is a form of moderate skeptical theism:

$$T = .001 \text{ v} .001 \text{ v} .001 \text{ v} .48 \dots .001.$$

On this story, then, Theo's moderate skeptical theism because the best version of theism to be tested against.

Suppose that Theo comes to accept moderate skeptical theism; how then will she makes predictions, given theism? Since moderate skeptical theism has the most probability of the different versions of theism, the predictions of theism will be close to the predictions of moderate skeptical theism. And it seems that, in that case, her predictions will differ from her first round of predictions. Her predictions will now put more weight on things like the new exhibiting continuity with the old, and will thus show little difference in content or confidence from the predictions of Natty (though some difference may remain). Thus, *theism's* predictions—and not just *moderate skeptical theism's* predictions—may very well to mirror closely those predictions of Natty. (C2') will thus be met; the abductive data will be handled by Theo's moderate skeptical theism. But if Theo's predictions are similar to those of Natty's, then it won't be that Natty's predictions have a better "fit" than Theo's—they won't have a better fit at that stage or subsequent stages.

By such versioning, theism need not seek to *predict* the data of good and evil in the way that old-fashioned theodicies sought to do: skeptical theists can thus remain significantly skeptical. But their theism will leave background predictions intact much as does the non-theistic hypothesis of indifference—which on Draper's argument also does not, of course, pretend to itself explain or predict the data of good and evil. And insofar as it can do this, FITTER will be found false. 42,43

So goes, at any rate, our story here—a story, we think, that has more than a few grains of truth to it. But what's important to note is that the real burden here is not on the theists, but on any bold abductive atheologian purporting to have a weighty abductive argument against theism. For if our account here is right, it is the abductive atheologians who must, in making any case for FITTER worth its salt, show that given our background information, it is improbable that any

⁴² This criticism should be kept distinct from van Inwagen's challenge (1991 [1996]) to a premise similar to FITTER. Van Inwagen's criticism can be put (more or less) like this: FITTER is true only if there is an epistemic probability of the data of good and evil on theism, and that epistemic probability is less than the epistemic probability of the data of good and evil on naturalism. But we are in no position to determine what the epistemic probability of the data of good and evil is on theism, and so we are in no position to say that *its* probability is less than the probability of the data of good and evil on naturalism. Thus, we are in no position to evaluate whether or not FITTER is true.

⁴³ In his (2009: 344), Draper considers something like this response from skeptical theists, objecting that "contrary to what the skeptical theist would have us to believe, the possibility of God having moral reasons *unknown* to us to permit O does not undermine my case for [FITTER], because God's having reasons to permit O that are unknown to us is no more likely *antecedently* than God's having reasons to prevent O that are unknown to us." Note that the skeptical theist Draper is considering does not update her (epistemological and ontological) auxiliary claims at successive stages of inquiry. This difference between his skeptical theist and ours provides, we think, promising resources for addressing this objection.

special version of theism meets (C1) and (C2'). Relegating relevant data here to OFF-SETTER leaves any endorsement of FITTER in an evidential vacuum.

At the same time, theists have more reason to be proactive that the demands of negative apologetics. The theoretical life of theism comes from versions of expanded theism, and here we theists should view our theism, while grounded in the past, as also *dynamic*, as seeking better specification as as we learn more and more, individually and communally, about ourselves and the world we live in, so as to refine theism into its best and truest versions. If the core claims of generic theism are true, it is not vain to hope that a theistic research program will, in the long run, display a certain empirically and theoretically progressive character. Whether *we* should expect to see such progressive shifts is however another matter, for as John Maynard Keynes aptly observed, in the long run—indeed, a good ways short of it—*we* shall all be dead. If generic theism is true, we may thus also hope it is true in a version on which God has given us, in the short run allotted to us, other less theoretical ways to know Him.⁴⁴

⁴⁴ Wykstra (1990, 2002)

- Adams, Ernest. (1998). A Primer of Probability Logic. Stanford: CSLI Publications.
- Dougherty, Trent. (2012). "Reconsidering the Parent Analogy: Unfinished Business for Skeptical Theists." *International Journal for the Philosophy of Religion*. 72.1: 17-25.
- Dougherty, Trent and Paul Draper. (2013). "Explanation and the Problem of Evil." In *The Blackwell Companion to the Problem of Evil*. Blackwell Publishing.
- Draper, Paul. (Forthcoming). "Confirmation Theory and the Truth about CORNEA." *This Volume*.
- Draper, Paul. (2009). "The Problem of Evil." In *The Oxford Handbook to Philosophical Theology*, ed. Thomas P. Flint and Michael Read. Oxford: Oxford University Press. 332-51.
- Draper, Paul. (2004). "More Pain and Pleasure: A Reply to Otte." In *Christian Faith and the Problem of Evil*, ed. Peter van Inwagen. Grand Rapids, MI: Eerdmans Publishing. 41-54.
- Draper, Paul. (1989) "Pain and Pleasure: An Evidential Problem for Theists." *Nous.* 23.3: 331-50.
- Howson, Colin and Peter Urbach. (2006). *Scientific Reasoning: The Bayesian Approach*. 3rd edition. La Salle, Illinois: Open Court.
- Keynes, John Maynard. (1921 [2004]) *A Treatise on Probability*. New York: Dover Publications.
- Logan, William Bryant. (2012). Air. W.W. Norton & Company.
- Maclean, Norman. (1992). Young Men and Fire. Chicago: Chicago University Press.
- Otte, Richard. (2004). "Probability and Draper's Evidential Argument from Evil." In *Christian Faith and the Problem of Evil*, ed. Peter van Inwagen. Grand Rapids, MI: Eerdmans Publishing. 26-40.
- Russell, Bruce and Stephen J. Wykstra. (1988). "The 'Inductive' Argument from Evil: A Dialogue." *Philosophical Topics*. 16: 133-60.
- Van Inwagen, Peter. (1991 [1996]). "The Problem of Evil, the Problem of Air, and the Problem of Silence." Reprinted in *The Evidential Problem of Evil*, ed. Daniel Howard-Synder. Bloomington: Indiana University Press. 151-174.
- Wykstra, Stephen J. (1984). "The Humean Obstacle to Evidential Arguments from Suffering: On Avoiding the Evils of Appearance." *International Journal for the Philosophy of Religion*. 16.2: 73-93.
- Wykstra, Stephen J. (1990) "Reasons, Redemption, and Realism: The Axiological Roots of Rationality in Science and Religion." In *Christian Theism and the Problems of Philosophy*, ed. Michael Beaty. Notre Dame: University of Notre Dame Press. 118-161.
- Wykstra, Stephen J. (1996a). "Have Worldviews Shaped Science? A Reply to Brooke." In *Facets of Faith and Science*, ed. Jitse Vander Meer. University Press of America.

- Wykstra, Stephen J. (1996b). "Rowe's Noseeum Arguments from Evil." In *The Evidential Problem of Evil*, ed. Daniel Howard-Synder. Bloomington: Indiana University Press. 126-150.
- Wykstra, Stephen J. (2002). "Not Done in Corner:' How to be a Sensible Evidentialist about Jesus." *Philosophical Books*. 43.2: 81-135.
- Wykstra, Stephen J. (2007). "CORNEA, Closure, and Current Closure Befuddlement." *Faith and Philosophy*. 24.1: 87-98.
- Wykstra, Stephen J. (2008). "Suffering, Evidence, and Analogy: Noseeum Arguments Versus Skeptical Gambits," in *Philosophy Through Science Fiction*, ed. Ryan Nichols, Fred Miller and Nicholas Smith (New York and London: Routledge).
- Wykstra, Stephen J. (2011). "Facing MECCA: Ultimism, Religious Skepticism, and Schellenberg's "Meta-Evidential Condition Constraining Assent." *Philo* 14.1: 85-100.
- Wykstra, Stephen J. and Timothy Perrine. (2008). Review of J.L. Schellenberg's *The Wisdom to Doubt*. Notre Dame Philosophical Review.
- Wykstra, Stephen J. and Timothy Perrine. (2012) "The Foundations of Skeptical Theism: CORNEA, CORE, and Conditional Probabilities." *Faith and Philosophy*. 29.4: 375-99.