The General Argument from Intuition[1]
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1. Introduction

Argument Q, the 17th argument in Plantinga's battery, concerns the problem of explaining how we can *take seriously* our capacity for intuition in such areas as logic, arithmetic, morality, and philosophy. Like many of the arguments in the series, this argument involves a comparison between theistic and non-theistic accounts of the cognitive capacities of human beings. These considerations are supposed to favor theism because theism provides a better explanation of the soundness or reliability of our capacity to know certain things that we appear to know in the way in which we appear to know them.

In this introductory section, I will deal with three preliminary issues: What is intuition? What are the competing accounts of intuition? And, what are the possible forms that the theistic argument could take? I will argue that the argument can take three forms: an inference to the best explanation, an appeal to something like the causal theory of knowledge, and an argument turning on the potential threat of undercutting epistemic defeaters concerning the reliability of intuition. I will then consider each of these arguments in turn in sections 2 through 4, ending with some concluding thoughts in section 5.

In philosophical contexts, we typically speak of 'intuitions' (plural) rather than 'intuition' (singular), perhaps because we aren't sure that there is a single capacity responsible for all our so-called intuitions. What then is an intuition? It is an instance of knowledge, or at least of apparent true belief. Its justification does not depend on inference, either deductive or inductive, and it is not grounded in an exercise of our sensory capacities or our memory or on testimony. Are intuitive beliefs based on anything at all? Here opinions differ. Some, following George Bealer (1998), take intuitions to be a kind of intellectual seeming, supposed to be similar in some respects to sensory or mnemonic seemings. Others (Williamson 2007) take

intuitions to be basic beliefs or inclinations to believe that are simply the immediate output of some capacity for underived knowledge. The contents of intuitions are typically assumed to be necessary truths that are general or at least somewhat generalizable, like the axioms of logic or mathematics or norms of ethics. Although this characterization of intuitions is mostly a case of *via negativa*, and although it is vague, it will do for our present purposes.

Plantinga assumes, and I will also assume, that it is impossible to do math, science, or philosophy without relying (at least implicitly) on intuitions. He assumes, and I will also assume, that our intuitions are for the most part instances of genuine knowledge. This raises the question of how such knowledge is possible. As we shall see in section 2, theism (and especially Christian, or at least Abrahamic, theism) has a plausible explanation ready to hand. What about its competitors?

Plantinga assumes, and once more I will assume right along with him, that there is only one really plausible alternative to theism here: a form of materialism in which evolution, guided only by the "blind watchmaker" of natural selection, is the sole explanation for our cognitive capacities. I will set aside here my own (pretty grave) doubts and grant for the sake of argument that the Darwinian mechanism has all the capacity claimed for it by its most ardent supporters (such as Richard Dawkins or Daniel Dennett).

There have historically been other major contenders, such as the monism of absolute idealists, like F. H Bradley, or atheistic forms of dualism or subjective idealism. Monistic idealism could probably mimic the explanatory power of theism pretty successfully, but it is perhaps close enough to theism that we could live with a disjunctive conclusion. Atheistic dualists or idealists of a rationalist bent, who posit multiple rational souls as uncaused and fundamental entities, are left with the tremendously difficult problem of explaining how a coherent physical and social universe could arise from the uncoordinated interactions of such immaterial souls, or how such souls could be injected into a pre-existing physical world. Although such alternatives to theism might well warrant further attention, for present purposes I will set them aside.

So, we can assume that there are just two salient hypotheses to consider: theism and evolutionary materialism. How can we use the phenomenon of intuitive knowledge to build an argument for theism and against its competitor? There is a series of three arguments to be made, each one depending on the success (at least partial

success) of its predecessors, but each adding considerably to the dialectical force of the whole series.

First, there is an inference to the best explanation of the phenomenon of the reliability of intuition as a source of truth. Theism provides an intelligible and plausible explanation, and any explanation in terms of naturalistic evolution is problematic in various ways, especially in respect of the lack of rigor in deducing reliability from naturalism, even when associated with plausible auxiliary hypotheses. If this is right, then the existence of reliably true intuition confirms the truth of the theistic hypothesis--assuming that that hypothesis has nonzero prior probability. There are, in fact, many reasons for attributing a significant, nonzero prior probability to theism, including some of the arguments discussed in this book. There is also the fact of widespread religious experience, and the fact (emphasized in the work of Richard Swinburne—see, for example, Swinburne 2004, Chapter 5) that theism is an admirably simple hypothesis, positing the existence of single entity, without parts, and with a nature wholly characterizable in eminently simple terms.

The second argument turns the failure of naturalism to provide a plausible explanation of the reliability of intuition into a deductive proof of the falsity of naturalism, relying on the premise that all knowledge requires some kind of real connection between acts of knowledge and the facts that are known, a connection that can ground a substantive explanation of the reliable correspondence between the two.

The third argument requires only that the first two arguments be at least *partially* successful, throwing reasonable doubt on the existence of a reliable connection between the output of our intuitive capacities and the relevant facts, given the assumption of naturalism. If naturalism were true, the existence of a salient, epistemic possibility that our faculties of intuition are unreliable would constitute an undercutting defeater of all intuitive knowledge. Knowledge is possible only in the absence of such a defeater; hence, the fact that we have intuitive knowledge at all entails the falsity of naturalism, and so confirms the truth of theism.

2. Inference to the Best Explanation of the Reliability of Intuition

2.1 Theism Can Explain the Reliability of Intuition

Christian theism includes the claim that human beings have been created in God's image. This implies our possession of basic capacities for understanding that mirror God's own understanding, although on a limited scale. Therefore theists can confidently predict that our basic cognitive capacities (including intuitive capacities) have an inherent orientation toward the acquisition of true beliefs, at least in certain contexts (i.e., contexts of pure and unhurried inquiry, discussion, and contemplation).[3]

Of course, God can ensure our reliability only if He is also reliable. Hence, the explanation of our reliability depends upon an adequate explanation of God's reliability. Here theists have a number of plausible strategies. First, they can suppose that both God and human beings have a kind of direct (causally unmediated) contact or connection with logical, mathematical, and ontological facts, a connection so intimate as to produce knowledge of those facts by acquaintance. Such a model is not available to the naturalist, for whom all such connections must be mediated by purely physical processes. Second, theists could go further and *identify* necessary facts with God's awareness of them, building on the sort of fusion of Platonism with theism advocated by Philo of Alexandria, Augustine, and Leibniz. On this view, there is no ontological gap between the *truth* of the intuitively known propositions and God's *knowledge* of them: the fact that such a proposition is true is either *identical to* or at least *constituted by* the necessary structure of God's intellectual activity. The second model also secures God's infallibility with respect to such matters. We would then participate (in a limited way) in this truth-constituting divine cognition.

Joel Pust (2004) has argued that the theist cannot use God's reliability to explain anything at all, since God's existence and intuitive beliefs are themselves necessary (according to classical theism). Pust claims that explanation is possible only when a corresponding counterfactual conditional is true, one of the form: if the explanans were not the case, then the explanandum would not be the case either. Granting this assumption, it would follow that explanations can be made only in terms of contingent facts. However, Pust is simply mistaken here. Necessary truths can be used to explain contingent facts, as, for example, when we appeal to mathematical facts about the numbers of combinations to explain statistical regularities. In

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[3] I'm setting aside the impact of the Christian doctrine of the Fall, partly because it varies widely within the Christian tradition and has no exact counterpart in other theistic religions. Personally, I take it to be a constraint on any acceptable doctrine of the Fall that it not disturb the reliability of our central cognitive faculties (including our moral knowledge—cf. Romans 2:14-15).

addition, there can be explanatory relations between necessary truths. For example, we can explain the validity of modus ponens in terms of the truth-function associated with the material conditional.

2.2 Naturalism Cannot Explain the Reliability of Intuition

Under the assumption of naturalism, natural selection provides the only grounds for explaining any functionality of our cognitive capacities. Natural selection selects for features that promote survival and reproduction. Therefore, it can explain only why our beliefs and other mental states are (jointly) useful or adaptive: it cannot explain directly why our beliefs tend to be true. This is especially true for those of our intuitive beliefs that are far removed from the practicalities of surviving in Paleolithic Africa. Getting such an intuitive belief right does not seem (at least prima facie) to provide a human being with any adaptively useful information about his or her environment. One might speculate that, for all we know, the cognitive mechanisms useful for survival are the very ones needed to get the intuitive beliefs right, but the naturalist has no strong grounds for thinking so.

Does Intuition Require, or Even Admit of, Any Explanation?

David Lewis (1986, 114-5) argued that there is no need to explain the reliability of beliefs whose contents are necessarily true, since there is no principled way to evaluate counterfactual conditionals of the form: if p (the necessary truth) were false, we wouldn't have believed it. (On Lewis's semantics for the conditional, such "counterpossible" conditionals are all vacuously true.) There are several cogent objections to Lewis's position. First, reliability requires more than just sensitivity to falsity (the property corresponding to Lewis's conditional). We also want safety: in any nearby world in which p is true (i.e., in any nearby world), we would still believe p (or something very close to it). Second, as Joshua Schechter (2010, 444) points out, it is primarily methods or faculties that we evaluate for reliability, not individual beliefs. It certainly makes sense to ask whether the faculties that generate beliefs intuitively do so in such a way as to generate predominantly true beliefs. Third, we can sometimes interpret counterpossible conditionals non-vacuously, so long as some necessary truths (the ones negated in the antecedents of the conditionals) can be explanatorily prior to contingent facts--something I've already argued for. Consider a conditional like the following one:

(1) If half of all possible poker hands contained four of a kind, such hands would be much more likely than they are.

Finally, as Schechter (2010, 447) also points out, explanation is not closed under necessary (or even logical entailment). Even if we explain why we have the intuitive beliefs we do, and even if it is necessary that those beliefs all be true, it doesn't follow that we've explained why our intuitive beliefs are true. We need to explain why, among all the possible capacities we might have had, we've ended with one with the feature of *reliability with respect to truth*.

Can Conceptual Constraints on Concept Possession Explain the Reliability?

In response to Plantinga's more general Evolutionary Argument against Naturalism (Plantinga 1985, chapter 12, 1995, 2002, 2003, 2011a, 2011b), Stephen Law (2012) has argued that conceptual constraints (of a sort available to naturalists) on concept possession can explain the general reliability of our cognitive faculties. As Plantinga concedes, natural selection can explain the generation of human brain states that reliably indicate adaptively relevant features of the environment. Law argues that it is plausibly a constraint on our attribution of contents to those brain states (including our characterizing them as constituting beliefs in certain propositions) that the majority of our beliefs in normal circumstances come out with *true* contents, even if there is no plausible *reduction* of belief to brain states. Timothy Williamson (2004) has argued convincingly that such conceptual constraints ought to be considered to require the maximization of *knowledge*, rather than that of true belief, since one's capacity to know truths containing a concept is more plausibly taken as a criterion of one's possession of the concept than is one's merely having (by chance) a large number of true beliefs involving the concept.

Of course, Law's strategy will work, in the first instance, only with respect to beliefs with contingently true contents, since only such contingent contents can be systematically linked to the information carried by "indicator" states in the brain. However, it is not implausible to suppose (as both Miščević 2004 and Williamson 2004 have argued) that reliability with respect to intuitive beliefs is a very probable by-product of reliability with respect to beliefs with contingent contents. Miščević points out that, at least for those necessary truths concerning the modal structure of reality, it is impossible in practice to isolate beliefs about important contingent matters (like dispositions, powers, potentialities, and propensities) from beliefs about the (necessarily true) principles of modal logic. For example, if I have the power to express a falsehood intentionally, and if expressing a falsehood intentionally metaphysically necessitates telling a lie, then I have the power to lie—an inference that requires a principle of modal logic, namely, the weakening of the

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consequent of a subjunctive conditional. Similarly Williamson argues that knowledge of everyday subjunctive conditionals is of great value in the struggle for existence. The operators of necessity and possibility can be defined in terms of counterfactual conditionals, in such a way that knowledge of counterfactual conditionals will ground inferential knowledge of some necessary truths. For example, a *might* conditional, like 'If we were to build a bridge of this kind from inferior materials, it might fall down', entails a proposition about metaphysical possibility: 'A bridge of this kind could fall down'. This inferential knowledge of necessary truths might constrain our modal intuitions in such a way as to ensure their having some measure of reliability.

Response #1: Four Special Cases where the Explanation is Especially Weak

Both Williamson and Miščevič have given us some reason to think that our knowledge of facts about *de dicto* metaphysical possibility and necessity might be the expectable by-product of our knowledge of contingent facts about modality, including our knowledge of counterfactual conditionals. However, this account leaves us with no reason to expect our intuitive beliefs to be reliable in other domains. I will discuss four such cases here: moral and epistemic norms, number theory, the a priori likelihood of possible laws of nature, and de re modal facts concerning the composition and persistence of material things.

i. Moral and Epistemic Norms, Reasons, and Judgments

Moral antirealists have appealed to evolutionary debunking arguments, based on the assumption of naturalism, quite often over the last fifteen years. Many naturalists are happy to embrace antirealism about objective moral norms and reasons, based on the impossibility of a naturalistic explanation of the reliability of our moral intuitions (following Harman 1977), but few have recognized that the same considerations tell against our having naturalistically intelligible intuitive knowledge of epistemic norms and reasons (Street 2009 is an exception), such as respect for logical consistency, the principle of total evidence, the avoidance of wishful thinking and other merely emotional responses to epistemic tasks, the importance of empirical testing and confirmation, and so on (see Koons 2010 for the details).

Natural selection might be able to explain our believing in practically useful norms, or in norms that are widely accepted among our peers, but neither of these have any necessary connection with truth. There is a kind of categorical imperative behind

moral and epistemic judgments, making their validity insensitive to questions of practical usefulness or social acceptance. If there were a reliable connection between the real existence of such reasons and their practical usefulness or widespread affirmation, this connection would have to be anti-naturalistic in nature: such as the ordering of divine providence.

Unlike in the case of metaphysical modalities, in the case of moral and epistemic norms there is no reason to think that natural selection would make us reliable in making judgments about particular, contingent truths—for example, in judging whether a particular person has many beliefs on a subject that are really justified. In addition, there is no reason to think that evolution would generate reliable, information-carrying indicator states in the brain corresponding to variable normative facts. Therefore, there is no reason to expect there to be pre-cognitive correlations for our interpretive norms to work with, and so no reason to expect those norms to favor the attribution of true beliefs to those brain states.

There is, in the case of our knowledge of epistemic norms several special difficulties for the naturalist in appealing to interpretive norms like the principle of charity or knowledge maximization to defeat the evolutionary defeater.

First, to appeal to the hermeneutical principle of charity is to attempt to ground our reliability by a mere stipulation. In the context of explaining our reliability, this is clearly question-begging. If we want to know whether naturalism has the resources to explain our having reliable intuitive faculties, it is unsatisfying to be told, "Let's just assume that they are reliable" This is clearly wrong in the case of the pro and con epistemic judgments we make about particular concrete acts and beliefs of fellow human beings: there is no way to make these judgments correct by interpretive fiat, assuming that epistemic values and norms are objective, independent of our actual beliefs and dispositions.

Second, the naturalist faces a dilemma: is knowledge-maximization a fundamental semantic law or the by-product of epistemic norms of interpretation? If it is supposed to be a fundamental law, the supposition is a poor fit with the hypothesis of naturalism. What facts about the natural world could make such a generalization law-like? How can such semantic laws fit into the fundamentally physical structure of the world? Moreover, why should we expect naturalistic laws of semantics (if there are such) to respect hermeneutical principles like charity at all?

If naturalists embrace the second horn of the dilemma, then they cannot appeal to *purely* normative facts about interpretation (disjoint from the physical world) as the ultimate ground for the reliability of intuition, since such facts must (for naturalists) be wholly grounded in the physical world, presumably by way of being roughly approximated by actual interpreters in favorable conditions. However, actual interpreters cannot even approximately apply Williamson's knowledge-maximization norm to intuitive states except by having substantial intuitive knowledge themselves. In order to interpret subjects in order to maximize their intuitive knowledge, we would have to be able to recognize possible instances of intuitive knowledge, and this would require that we have a great deal of intuitive knowledge so that we can check when the subjects' intuitive beliefs, as we might interpret them, would match our own instances of intuitive knowledge. After all, in order to count as knowledge the beliefs would have to be true, something we could verify only by means of our own intuitive knowledge. For example, in order to maximize a subject's knowledge of arithmetic, we would have to be able to tell which possible beliefs of that subject would constitute knowledge of arithmetic, a task that is possible only if *we* know something of arithmetic. Since all such knowledge is intuitive, we would ultimately have to appeal to our assumed intuitive knowledge (qua interpreters) in order to explain our own intuitive knowledge (qua interpreted). Hence, the explanation of our reliability would be circular. (See Bonevac, this volume, for more problems with naturalistic accounts of interpretation.)

Could the naturalists simply renounce any interest in categorical epistemic norms and reasons, contenting themselves with following whatever rules or judgments are useful in practice? First, this doesn't solve the problem of accounting for the categorical norms of rationality. We can't help but think that the relevance of those norms (consistency and so on) is not conditional upon their usefulness. Second, if the force of the norms were conditional on their usefulness, we would have to have some evidence for their actual usefulness that is independent of the norms of rationality, which is surely an impossibility.

ii. Number Theory

Another special case concerns our intuitive knowledge of the infinite structure of the natural numbers, namely, our knowledge that every number has a successor, and that the totality of natural numbers satisfies the principle of mathematical induction (i.e., any property that is true of zero and whose extension is closed under

succession is true of all numbers).[4] Since our ancestors never encountered infinitely intricate situations in their struggle for existence, and since intuitive knowledge of the abstract numbers or of abstract proof theory by itself offers no selective advantage, natural selection can provide no explanation of our intuitive knowledge of the omega-structure of the numbers. You don't need mathematical induction to count the number of lions in the clearing.

First, this is a case in which an abundant or plenitudinuous theory of concepts is quite implausible. There is something objectively special about the concepts of standard number theory. Second, as I argued in Koons 2003, one cannot coherently adopt a fictionalist account of number theory, since a mathematical theory is useful only if it is conservative (that is, only if it does not allow us to infer non-mathematical consequences that we could not infer in its absence), and a theory is conservative only if it is proof-theoretically consistent. As Gödel demonstrated, the fact that number theory (or any other theory) is consistent is itself logically equivalent to a number-theoretic proposition. *Hence, one cannot believe that number theory is consistent without being implicitly committed to the truth of something at least as strong as number theory itself.* In fact, one can be justified in believing that number theory is consistent only by being justified in believing number theory to be *true*, as Frege pointed out. Third, this same problem eliminates the plenitudinous account of mathematics (Balaguer 1995) as a naturalistically acceptable explanation of our reliability with respect to number theory: in order to be confident that there is a mathematical structure (even in a mathematically plenitudinous universe) that satisfies the axioms of number theory, we must first be reliable at detecting the consistency of that theory.

iii. A Priori Likelihood of Laws of Nature

As I have argued elsewhere (Koons 2000b), the reliability of the scientific method depends on the reliability of the a priori component of our theory-choice practices, which is characterized by a pervasive preference for various kinds of simplicity, symmetry, elegance, and other quasi-aesthetic characteristics. Thanks to the inevitable underdetermination of theory by data, if our non-empirical grounds for theory choice are unreliable, we can never collect enough data to have any confidence that we have narrowed down the possible laws of nature to a finite or even relatively compact set. Even if, as Steven Weinberg (1993, p. 158-9) has

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[4] Nota bene: this requires a great deal more than simply knowing that each number has a successor.

argued, Nature herself trains us in what aesthetic qualities to look for, refining our theoretical "tastes" as we progressively uncover her secrets, it remains the case that we can be so trainable only by being pre-disposed to learn the right lessons from the early stages of scientific investigation.

Even more importantly, aesthetic qualities like simplicity can be a reliable guide to true theories about the laws of nature only if there is, objectively speaking, a real bias toward such simplicity in the laws themselves. If what laws nature has is independent of human practices (as any decent naturalist must suppose), then the source of the bias could only be some supernatural cause that is responsible for the pervading shape of those laws or that has supernatural acquaintance with those laws. Therefore, only theism can explain the reliability of the scientific method.

The naturalist cannot renounce knowledge about the objective laws of nature without calling into doubt naturalism itself, thought of as a very abstract, high-level theory about reality.

iv. De Re Modal Facts concerning Material Composition and Persistence

Finally, Michael Rea (2002, p. 86) has argued: "There is no naturalistically acceptable basis for thinking that reflecting upon conceptual or conventional truths is a way of acquiring information about the world's intrinsic modal structure." This is especially clear when considering knowledge of *de re* necessities and possibilities concerning the composition and persistence of material objects (Rea discusses persistence: see Korman 2014 for parallel arguments about synchronic composition). Although there may well be some adaptive advantage to anticipating the counterfactual consequences (described in *de dicto* terms) of various actions, there is no obvious biological payoff to knowing whether *this very thing* has survived this or that change, as opposed to having been destroyed and replaced by something new, assuming that bare facts of identity and distinctness cannot by themselves make any difference to the distribution of physical and biological properties in space and time. To put it metaphorically, natural selection cares about the perpetuation of genetic types: it couldn't care less about whether individual *token* organisms or *token* inorganic entities survive. There may be an advantage to having relatively simple intuitions, but there is no advantage to having true ones.

Why can't the naturalist just include a plenitudinous theory of material objects (e.g., mereological and four-dimensional universalism[5]), thereby securing the reliability of all of our positive ontological intuitions? This can always be added as an auxiliary hypothesis to naturalism, with some loss of prior probability, due to its ad hoc nature. In addition, Dan Korman (2014, 6-10) has put forward a convincing reason why this won't be ultimately satisfactory—at least, not when we reach section 4 on defeaters. As we shall see, all the theist needs is some reason to believe the plenitude thesis to be false (such as negative intuitions about the non-existence of exotic objects, or a reasonable preference for relatively sparse ontologies). The naturalist will ultimately need *conclusive* grounds for believing in the plenitude thesis itself in order to defeat this defeater, and all of the usual grounds for accepting plenitude are (as Korman argues) undermined once one accepts a purely naturalistic account of our intuitions.

Conventionalism about de re modality (with its assumption of a plenitude of genuine material-object concepts) would give us only mind-dependent material objects.

As Rea argues convincingly, the fact that naturalists can claim no knowledge of the existence or nature of individual material things plays havoc with that philosophy, leaving naturalists without good reason for believing in the existence of any extra-mental reality at all. If I cannot know that any particular material object or any particular kind of material object exists, can I mean anything substantive by (extra-mental) *matter* (as Berkeley long ago questioned)? Ironically, it is their ignorance of the body (rather than of the mind) that prevents naturalists from providing a solution to the mind/body problem.

Response #2: Conceptual Constraints do not Ensure Sufficient Reliability

Let's suppose that conceptual constraints are enough to ensure some measure of reliability to our intuitions. Is the resulting reliability great enough for knowledge?

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[5] A pure form of such universalism would entail that *every* occupied region of spacetime, no matter how gerrymandered or discontinuous, corresponds to a real composite and persisting entity, which has, at each point in time, all of the physical bits in the corresponding time-slice as proper parts. So, for example, there would really exist an entity that consists of the moon in 33 B. C. and the left half of the Eiffel tomorrow afternoon, and nothing else at any other time. This will, of course, entail, as a special case, the existence of all common-sense objects, and their common-sense ways of persisting.

To count as knowledge, a belief must be the product of a faculty that is, when functioning normally under normal circumstances, in a context of pure inquiry, with sufficient leisure, and within suitable margins of error, perfectly reliable (or *very* nearly so). This standard of normal infallibility is the upshot of reflecting on the Lottery Paradox: the inherently fallible method of believing that any arbitrary ticket is a loser cannot produce knowledge of that fact, no matter how high the probability that it would, in any case, yield the right answer.

Natural selection prefers "quick and dirty" approximations to principled solutions. Knowledge, in contrast, must be the product of a *per se* infallible faculty—all error must be the product of interfering factors or abnormal conditions. Compare, for example, two engineers: one who uses an approximation technique that is known to give the right answer 80% of the time, the second who uses a method that is guaranteed to give the right answer every time but who fails to apply that method correctly 25% of the time, due to distractions or confusion. The second engineer knows the exact answer 75% of the time, while the first never knows the exact answer, even though his guesses are right 80% of the time. From the point of view of knowledge, the first is a complete failure, and yet Nature would surely often prefer the first to the second.[6]

How much reliability can we expect to result from the sort of conceptual constraints discussed by Law and Williamson? It is hard to say exactly how much—at most, we can be confident that we will be as reliable *as absolutely necessary* for the attribution to us of the relevant concepts to be reasonable. That is a pretty low standard: we are all familiar with cases of systematic error and confusion that coexist quite happily with the undeniable possession of the relevant concepts. To possess the relevant concepts it is sufficient to be able to apply them in a few clear cases, while being quite unreliable in general.

Can Williamson's suggestion of knowledge maximization as an interpretive standard be of help? Not really, since, as Williamson (2004, pp. 139-140) explains, the maximization norm would lead us to attribute knowledge only in those cases in

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[6] Note well that I am not saying that *we* must be infallible in order to have knowledge. We must distinguish between faculties that are intrinsically fallible (and so not knowledge-generating) from those that are intrinsically infallible but fragile—subject to external interference. The latter generate knowledge, when they are free to work properly, but they can fail, when interfered with. I'm also not assuming any kind of luminosity or KK principle, since I'm requiring infallibility only within suitable margins of error.

which the subjects are in appropriate causal contact to the relevant facts. This is why we are not driven to attribute knowledge of quantum mechanics, for example, to people in the Stone Age. However, when it comes to causal contact with the facts of mathematics, morality, or ontology, we are all in the same boat as our Paleolithic ancestors were with respect to quantum phenomenon--indeed, we are worse off with respect to mathematical, moral, and ontological facts than they were with respect to quantum mechanical ones.   Given naturalism, our ancestors were at least in some remote causal contact with the latter since they are physical in nature, while we are completely isolated from the former, since they are not Consequently, Williamson's knowledge maximization standard of interpretation can't by itself ensure any reliability to our intuitive beliefs of necessary truths.

Response #3: Are Concepts Sparse or Abundant?

There are two conceptions of the ontology of simple concepts that are relevant to the idea of constraints on concept possession: a sparse and an abundant conception (corresponding to the well known distinction between sparse and abundant conceptions of properties). On the abundant conception, there is a genuine simple concept that corresponds to every coherent inferential role within a person's cognitive economy. On the sparse conception, in contrast, an inferential role corresponds to a real simple concept only when it effects acquaintance with a real property, presenting that property as it is to the mind—a property that is highly natural, part of the fundamental structure of the world, cuts nature "at its joints". On the sparse view, we can think of unnatural properties only by means of complex concepts. It is then possible for some of our thoughts to include pseudo-concepts (like *phlogiston*), analogous to empty names like 'Zeus' or 'Santa Claus'.

This distinction between two models of concepts sets a dilemma for the naturalists' appeal to standards for concept possession. On the abundant-concepts model, it is relatively easy to see how we could have intuitive knowledge that is grounded in the concepts we possess, but that knowledge is irredeemably anthropocentric and devoid of real significance about the world. (I'm supposing here a plenitude of concepts, not objects, in such a way that the applicability of a set of concepts puts no constraints on the nature of the world.)

If, however, we adopt the sparse-concepts model instead, then we face a new source of skepticism about the reliability of our intuitive beliefs: in order to be reliable, our intuitive beliefs would have to succeed in providing our thoughts with genuine simple concepts. However, naturalists will be unable to explain why nature should

care whether our inferential-cognitive roles should hook up with ontologically substantive concepts, especially in those domains (see Response #1) that are unrelated to practical concerns.

3. The Causal Theory of Knowledge

We've seen that theism can readily provide a plausible causal connection between necessary facts and human intuitions, while naturalism has no such facility. The majority of post-Gettier epistemologists have come to recognize that in paradigmatic cases of knowledge (perception, memory, testimony), some such causal connection is a necessary condition of knowledge. If we can adopt such a causal condition (or something analogous to it) for knowledge of necessary truths, we will have to conclude that intuitive knowledge is compatible with theism but inconsistent with naturalism.

3.1 A Transcendental Argument

Here is a simple version of such an argument:

1. If naturalism is true, our faculties evolved by unguided natural selection.

2. If our faculties evolved by unguided natural selection, then there is no connection (either causal, metaphysical, or constitutive) between our intuitions and the corresponding facts.

3. A connection of this kind is a necessary condition for intuitive knowledge.

4. Consequently, if naturalism is true, then there is no intuitive knowledge.

5. We have intuitive knowledge.

6. So, naturalism is not true.

7. If naturalism is not true, then (probably) God exists.

We must first recognize that this argument proposes only a kind of hypothetical skepticism about intuitions: if naturalism is true, then we have no intuitive knowledge. It does not join the company of "experimental" philosophers who reject intuitive knowledge tout court. Consequently, many dialectically successful attacks

on intuition skepticism or experimentalism (such as those of Pust or Bealer) are irrelevant to this argument.

The only really controversial premises in the argument are 2 and 3, and I have already argued for premise 2 in section 2 above. So, the only remaining issue to consider is whether the causal condition of knowledge (or something very close to it) also applied in the case of intuition.

3.2 An Exception to the Causal Condition?

Edmund Gettier's paper (1963) revealed the bankruptcy of defining knowledge in terms of justified true belief. Post-Gettier reflections on knowledge have revealed that, at least in the paradigmatic cases of perception, memory, and testimony, knowledge requires a real connection of some kind between the mental state of knowledge and the facts so known. I argued in *Realism Regained* (Koons 2000a) that a similar constraint is also required for our knowledge of the laws of nature, mathematics, and logic. The key fact is that our intuitive (justified) true beliefs can also be Gettierized.

Suppose that a drug XYZ produces randomized intellectual seemings (or, if you prefer, causes our ordinary rational faculties to generate beliefs with randomized contents). When administered to a group of subjects, it is predictable that only 1% end up (by sheer chance) with true intuitive beliefs on a particular mathematical or ethical question. Those relying on veridical seemings (or belief-generation) under these circumstances do not gain knowledge, although they may have justified true beliefs (assuming that they don't know about the drug and its effect). Similarly, suppose that only one person out of a million has a veridical reaction to each of 10,000 such drugs, ending up (by chance) with true intuitive beliefs on all 10,000 questions. This is still not sufficient to give those subjects true beliefs on any of the issues.

Does this result depend in any way on contingency—that is, on the possibility of a given subject believing differently? Replace the drug with genetic manipulation of human gametes. Given origins essentialism, the one out of a million that end up by sheer chance with true beliefs on the 10,000 questions might have the disposition toward those beliefs essentially. This is still not good enough for knowledge.

Would it be sufficient if the seemings or dispositions to believe were essential to one's species? I think not: just replace the preceding scenarios with one in which

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aliens manipulate the evolutionary history of intelligent species on a million planets, with intuitions producing true beliefs occurring (by blind chance, not by design) on just one planet, and with all 1 million species equally adept at reproduction. The one intelligent species with species-wide essential dispositions to true intuitive belief still lack knowledge, because of the lack of a real connection between their seemings and dispositions and the relevant truths (whether those truths are themselves necessary or contingent).

The upshot of these thought experiments is this: knowledge is undermined so long as there are relevantly similar seemings or dispositions that are unreliable with respect to truth, and which had an equal or nearly equal propensity to exist.

What if it were metaphysically impossible for there to exist relevantly similar seemings that are false? I reply: Is this impossibility supposed to be true as a matter of brute necessity? It is hard to believe in such a metaphysical necessity without some ground—a ground that theism can provide, and that naturalism cannot. And, in any case, a merely brute necessity is too accidental to provide the needed connection between beliefs and their objects. Counterpossible scenarios in which the brute necessity was violated would be epistemologically relevant.

Could it be that intellectual seemings count as belief-justifying only when they are true? On this view, their non-veridical counterparts would not result in justified beliefs, so that all really justified intuitive beliefs would be true, and therefore they would all be cases of knowledge, with justification itself providing the link between the belief and its object. This supposition makes the two cases (veridical and non-veridical seemings) relevantly dissimilar. However, this view would make sense only if the order of explanation went from justified belief to true belief, and not vice versa. It would require some non-accidental connection between intellectual seemings and truth, which is precisely what naturalism cannot provide. If the only difference between justified intuitions and unjustified intuitions were that the first are true and the second false, then there would be no distinction between true opinion and knowledge in the intuitive domain, a result that is obviously wrong (as illustrated by the drug XYZ thought experiment above).

4. Higher-Order Epistemic Defeaters

If the arguments of sections 2 and 3 are even partially successful, they raise real doubts about the compatibility of naturalism and intuitive knowledge. In this section, I will argue that the mere existence of such doubts would constitute, if

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naturalism were true, a decisive *defeater* of all intuitive knowledge. Hence, the epistemological objection to naturalism can bootstrap itself from the mere epistemic *possibility* of an incompatibility of naturalism with the existence of intuitive knowledge to the *certainty* of such incompatibility.

4.1 Objective vs. Subjective Accounts of Defeaters

The theory of defeaters, as developed by John Pollock, Alvin Plantinga, and Michael Bergmann, has supposed that defeaters are beliefs of a certain kind: beliefs whose presence in the mind undermines some other belief's warrant, justification or reasonableness (in the same mind). Let's call this a *subjective* account of defeaters, in the sense that the defeater is always some state of the subject whose belief is defeated. Jonathan Kvanvig (2007) has argued for an alternative, objective account, on which defeaters are true propositions that stand in a defeating relation to some epistemic relation (like being support or evidence for) between two other propositions or sets of propositions. Jonathan Dancy's work on practical reasons as facts or actual states of affairs to which a rational agent is sensitive or responsive could also be adapted to an objective theory of defeat.

Since Plantinga has already developed the subjective theory in some detail in connection with his evolutionary argument against naturalism, I think it would be of interest to try out the objective theory here instead. In addition, the objective theory avoids certain tangles and complexities to which the subjective theory is prone, and it has the nice feature of making facts about defeat insensitive to the order in which the subject learns relevant facts.

On Dancy's view, a *reason* for S to believe p is some actual state of affairs that favors S's believing p. We can extend Dancy's picture to *undercutting defeaters* (to use the term from Pollock 1987). An *undercutting defeater* of R as a reason for S to believe p is a state of affiars that grounds the fact that R is not a reason for S to believe p. An undercutting *defeater-defeater* of D (as a defeater of R as a reason for S to believe p) is a state of affairs that grounds the fact that D is *not* a defeater of R as a reason for S to believe p (see Chandler 2013). A *rational* subject is one whose beliefs and non-beliefs are suitably sensitive to the reasons he or she is aware of (i.e., one who responds as the reasons demand). A subject S *knows* that p if and only if (roughly) S believes p, p is true, and S's belief in p is suitably sensitive to the reasons for and against believing p. A defeater of S's knowledge that p is a defeater of S's reasons for believing p.

D is a *potential defeater* of *R* (as a reason for *S* to believe *p*) just in case (roughly) *D* would be, in the absence of any relevant defeater-defeaters, a defeater of *R*. *D* is a *merely potential* defeater of *R* if *D* is actually defeated.

We can also distinguish between first-order and second-order undercutters. A defeater *D* is a *first-order* undercutter of *R* as a reason for *S* to believe *p* if and only if *D* is a reason for thinking that relying on *R* would be unreliable with respect to the truth of *p*. A defeater *D* is a *second-order undercutter* of *R* if *D* is a reason (even a weak reason) for thinking that some first-order undercutter exists. Second-order undercutters are *highly leveraged defeaters*: a very weak reason for thinking that there exists a state of affairs *X* that is a first-order defeater of *R* suffices (if not *completely* defeated) to defeat *R*, even if *R* would be (in the absence of defeaters) a very strong first-order reason for believing *p*, and even if there is no *X* that is in fact a defeater for *R*.

Second-order defeaters include those cases (discussed by Plantinga) in which the probability that a belief has been reliably formed is "inscrutable". As Plantinga convincingly argues, such predicaments of inscrutability are sufficient to defeat both warrant and rationality with respect to the ground-level belief.

Why is there a no-defeater condition on knowledge? If one's reasons for believing *p* are defeaters, they are in fact no reason for believing *p* at all.

Why do undercutters defeat? In particular, why do second-order undercutters defeat? To believe any proposition on the basis of some reason for believing it, one must be nearly perfectly reliable in one's responsiveness to similar reasons for similar propositions. For reasoning subjects as complex as human beings, bombarded as we are by information from many rival claimants to reliability, being nearly perfectly reliable in such responsiveness requires that one *also* be nearly perfectly reliable at distinguishing reliable sources of belief from other sources, and that one respond appropriately to that knowledge. Hence, second-order defeaters demand that the rational agent discount those reasons that would, in the actual presence of the threatened first-order defeaters, be no reasons at all for one's belief.

4.2 The EAAN (with Objective Defeaters) Applied to Intuitive Knowledge

Here is a sketch of the argument applied to intuitive knowledge and employing objective, Dancy-style defeaters—specifically, treating the arguments in sections 2 and 3 as constituting a second-order undercutting defeater.

1. If naturalism is true, our faculties evolved by natural selection. (If N, then E)

2. Necessarily, if N&E, then there is no ironclad explanation of the genesis of reliable intuition in human beings. (From section 2) (Alternatively, from section 3: ...then there is reason to think that intuitive beliefs lack the sort of connection to the facts required for knowledge.)

3. Necessarily, if there is no ironclad explanation of the genesis of reliable intuition in human beings, then there is at least some reason to believe that the prior objective probability of human intuition's being reliable (R) is low. (And similarly, there is some reason to believe that intuitive beliefs lack the connection to fact required for knowledge.)

4. Necessarily, there being some reason to believe that the prior objective probability of R is low constitutes a potential second-order undercutting defeater for all intuitive belief. (And, similarly, there being some reason to think that intuitive beliefs lack the connection to fact required for knowledge also constitutes such a potential second-order undercutting defeater.)

5. Consequently, N&E entails the existence of a potential defeater for all intuitive belief. (2-4)

6. The only possible defeater for this defeater of intuitive belief would involve the corroboration of human intuitive beliefs by human intuitive knowledge.

7. Such self-corroboration cannot defeat any defeater. (The No-Self-Corroboration thesis)

8. Consequently, N&E entails the existence of an undefeatable (and therefore actual) undercutting defeater for all intuitive belief. (5-7)

9. If an actual defeater for any case of belief exists, then the corresponding type of knowledge is not instantiated. (The no-defeater condition for knowledge)

10. Consequently, if naturalism is true, then none of our intuitive belief constitutes knowledge. (1, 8, 9)

11. We have intuitive knowledge.

12. So, naturalism is not true. (10, 11)

13. If naturalism is not true, then (probably) God exists.

14. So, probably God exists. (12, 13)

We have discussed premises 1, 2, 9, and 11, so the crucial premises here are 3, 4, 6, and 7. Concerning 3: since natural selection can provide no ironclad explanation for the genesis of reliable intuition, we have to take seriously (as a real epistemic possibility, supported by some reason) that the objective propensity of the process of natural selection to produce such a reliable faculty of intuition was low. But this very fact is (as premise 4 asserts) a potential second-order defeater of any case of intuitive knowledge, since it grounds reasonable doubt in the reliability of the outputs of our intuitive faculties. So far, I think, the argument is relatively uncontroversial. The remaining question is this: is this potential defeater of intuitive knowledge itself defeated (and so, not an actual defeater at all)?

How could this potential defeater be defeated? Not only did we not find any categorical explanation of the reliability of intuition in terms of natural selection that was ironclad, we did not find any prospects for even a conditional explanation of it in those terms. That is, we didn't find any plausible naturalistic mechanism that, when added to natural selection, would predictably produce reliable intuitions. If we had, we could have looked for independent verification of the operation of that mechanism. As it is, the naturalists are stymied. Consequently, the only tack naturalists have taken in response to this task is to claim that we can find evidence that we have "won the cosmic lottery," that is, that despite the possible improbability of its doing so, nature has in fact conferred reliable intuitive faculties upon us.

Where, however, is the evidence that our faculties are in fact reliable? There are only two ways to verify, ex post facto, that we've acquired from evolution reliable intuitive faculties. The first would be to compare the outputs of those faculties with the actual facts. However, it is obvious that we cannot do so, since any such comparison would be guilty of what we might call "the self-corroboration fallacy". Here is a procedure that cannot produce evidence of the accuracy of a ruler: use the ruler to measure a line, and then use the same measurement again to verify the ruler's accuracy. However, any evidence that could be used to defeat the potential

defeater of section 2 would be guilty of this very fallacy. Hence, the defeater cannot be defeated, and naturalism is incompatible with intuitive knowledge.

The second way to verify that our intuitive faculties are reliable would be simply to notice that intuition brings us in direct, unmediated contact with the modal, mathematical, or metaphysical facts (that in intuition the intellect is really contains its object, as Aristotle suggests in *De Anima* III). However, such contact implies the causal non-closure of the natural domain and so is incompatible with naturalism.[7]

4.3 Answering Objections

The Perspiration Objection (or The Conditionalization Problem)

Plantinga sets up the EAAN in terms of the rational conditional probability of R on N&E. Instead, I put the argument in terms of the epistemic possibility (by way of the absence of an ironclad naturalistic explanation) of a low objective probability (at the time of the emergence of the human species) of intuitive reliability. My formulation avoids what Plantinga calls "the perspiration objection," and what many others have called "the conditionalization problem". Objective probability is automatically *conditionalized*, in a sense, on all the causal factors present at the moment of genesis. Naturalism cannot exclude the very real possibility that the reliability of human intuition at that point in history was quite low, certainly far below the levels required for knowledge. Omar Mirza (2008) builds the argument in a similar way, focusing on the process *P* that produced our faculties, and the fact that the naturalist has reasonable grounds for doubting that *P* "filtered out" unreliable faculties.

Tu Quoque

Hasn't the theist cheated by in effect building into her hypothesis the reliability of human intuition? Couldn't the naturalist do the same thing? No, and no. As I argued in section 2, explaining the reliability of human intuition is a substantive task for theists, but one that they are able to carry out. The auxiliary hypotheses required fit easily into a theistic framework. The naturalist, in contrast, has no compelling reason to believe (as Mirza 2008 points out) that the actual processes responsible for shaping human intuition were likely to produce reliable faculties.

5. Conclusion

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[7] Thanks to Tomas Bogardus for this point.

Given the power of second-order undercutting defeaters, naturalists who wish to affirm the possibility of intuitive knowledge have the burden of proof of decisively refuting the conditional doubts raised in sections 2 and 3. The prospects for their doing so seem very slim. Hence, theists have a powerful argument for the superiority of theism over naturalism.

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