

EVOLUTIONARY DEBUNKING: THE DEMARCATION PROBLEM

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ABSTRACT: Recent literature has paid considerable attention to evolutionary debunking arguments. But the cogency of evolutionary debunking arguments is compromised by a problem for such arguments that has been somewhat overlooked, namely, what we may call *'the demarcation problem.'* This is the problem of asking in virtue of what regulative metaepistemic norm evolutionary considerations either render a belief justified, or debunk it as unjustified. In this paper, I present and explain why in the absence of such a regulative metaepistemic norm any appeal to evolutionary considerations (in order to justify or debunk a belief) is bound to be ad hoc and question-begging and, therefore, ultimately unjustified.

KEYWORDS: evolutionary debunking, 'the demarcation problem,' justification

1. Introduction

Appeals to evolutionary, causal considerations that serve to construct evolutionary arguments (debunking or justifying) are rife in recent philosophical debates. Such evolutionary arguments typically have the following basic form:¹

“Causal Premise: S’s belief that p is explained by X.

Epistemic Premise: X is an (off-\on-)track process.

Therefore, S’s belief that p is (un-)justified.”²

¹ See, for example, Guy Kahane, “Evolutionary Debunking Arguments,” *Nous* 45, 1 (2011): 106 and Paul Griffiths and John Wilkins, “Crossing the Milvian Bridge: When Do Evolutionary Explanations of Belief Debunk Belief?” in *Darwin in the 21st Century: Nature, Humanity, and God*, eds. Phillip R. Sloan, Gerald McKenny, and Kathleen Eggleston (Notre Dame, IN: Notre Dame University Press, 2015), section 1. For a critical response to Griffiths and Wilkins, see Christos Kyriacou, “Evolutionary Debunking: The Milvian Bridge Destabilized,” *Synthese*, forthcoming. Online publication: DOI: 10.1007/s11229-017-1555-0.

² Such ‘genealogical’ arguments need not be evolutionary in particular, see Russ Shafer-Landau, “Evolutionary Debunking, Moral Realism and Moral Knowledge,” *Journal of Ethics and Social Philosophy* 7, 1 (2012):1-2 for discussion. They could be sociological, psychological, historical etc. and understand the causal premise accordingly. See Gilbert Harman, *The Nature of Morality* (Oxford: Oxford University Press, 1977) for a sociological genealogical argument against moral beliefs and Sigmund Freud, “The Future of An Illusion,” in *The Freud Reader*, ed. Peter Gay

On the one hand, appeals to evolutionary considerations that result in *debunking* arguments suggest in the ambivalent epistemic premise that X is an *off-track* process.³ Such arguments have notably been applied to moral, religious, color, ordinary objects and even mathematics and logic beliefs as well as to various kinds of cognitive illusions beliefs (such as so-called positive illusions and thermoreceptive illusions).⁴ On the other hand, appeals to evolutionary considerations that result in *justifying* arguments suggest in the epistemic premise that X is an *on-track* process. Such arguments have been applied to cognitive processes (and their doxastic output) such as induction, abduction, deduction, perception, memory, the belief in an external world, understanding of other minds and beyond.⁵

(London, Vintage, 1989), 685-721 for a psychological argument against religious beliefs.

³ I assume an understanding of the tracking condition in terms of reliability. That is, a process is on-track if and only if it reliably tracks respective facts and produces a preponderance of true beliefs. Otherwise, it is off-track and unreliable.

⁴ See Richard Joyce, *The Evolution of Morality* (Cambridge, MA: MIT Press, 2006), Philip Kitcher, "Biology and Ethics," in *The Oxford Handbook of Ethical Theory*, ed. David Copp (Oxford: Oxford University Press, 2006), 163-185, Sharon Street, "A Darwinian Dilemma for Realist Theories of Value," *Philosophical Studies* 127 (2006): 109-166 for debunking of normative beliefs, Joshua Schechter, "Could Evolution Explain our Reliability about Logic?" *Oxford Studies in Epistemology* 20 (2013): 214-239 for logic beliefs, Justin Clarke-Doane, "Morality and Mathematics: The Evolutionary Challenge," *Ethics* 122, 2 (2012): 313-340 for maths beliefs, Paul Boghossian and David Velleman, "Colour as a Secondary Quality," *Mind* 98, 389 (1989): 81-103 for color beliefs, Daniel Korman, "Debunking Perceptual Beliefs About Ordinary Objects," *Philosophers' Imprint* 14, 13 (2014) for ordinary object beliefs, Ryan McKay and Daniel Dennett, "The Evolution of Misbelief," *Behavioral and Brain Sciences* 32 (2009): 493-513, for positive illusions beliefs, Helen De Cruz, Maarten Boudry, Johan De Smedt, and Stefaan Blancke, "Evolutionary Approaches to Epistemic Justification," *Dialectica* (2011): 517-535 for thermoreceptive beliefs, and Richard Dawkins, *The God Delusion* (London: Bantam Press, 2006) for religious beliefs. With positive illusions McKay and Dennett ("The Evolution of Misbelief," 505) refer to "unrealistically positive self-evaluations, exaggerated perceptions of personal control or mastery, and unrealistic optimism about the future." With thermoreception De Cruz et al. ("Evolutionary Approaches," 532) refer to "the system that reacts to surface skin temperatures." This cognitive process is not very reliable since it tends, for evolutionary reasons, to represent the temperature conducive to an organism's fitness and survival, not the accurate temperature.

⁵ See, for example, W.V.O. Quine, "The Nature of Natural Knowledge," in *Mind and Language: Wolfson College Lectures*, ed. Samuel Guttenplan (Oxford: Clarendon Press, 1975), 67-81 and Sharon Street, "Evolution and the Normativity of Epistemic Reasons," *Canadian Journal of Philosophy*, Supplementary Volume 35 (2009): 213-249 for induction, Alan Goldman, "Natural Selection, Justification and Inference to the Best Explanation," in *Evolution, Cognition and Realism*, ed. Nicholas Rescher (Lanham: University Press of America, 1990), 39-46 for abduction,

In this paper I present and explain a conspicuous but somewhat overlooked problem for such epistemic appeals to evolutionary considerations, what we may call *'the demarcation problem.'* This is the problem of asking in virtue of what regulative metaepistemic norm evolutionary considerations render a belief justified or debunk it as unjustified. In the absence of such a regulative norm, any appeal to evolutionary considerations (in order to justify or debunk a belief) is ad hoc and question-begging and, therefore, ultimately unjustified. Call this *'the adhocness problem.'*

2. Unpacking the Demarcation Problem

The demarcation problem has been around for at least some time and is gaining traction in recent literature.⁶ Roughly, the problem is that evolutionary considerations may sometimes be used to justify beliefs (e.g. inductive, perceptual, memorial, external reality beliefs etc.) and sometimes to undermine and debunk beliefs as unjustified (e.g. normative beliefs, color beliefs, religious beliefs, ordinary

Joshua Schechter, "Could Evolution Explain our Reliability about Logic?" *Oxford Studies in Epistemology* 20 (2013): 214-239 for deduction, Steve Stewart-Williams, "Innate Ideas as a Naturalistic Source of Metaphysical Knowledge," *Biology and Philosophy* 20 (2005): 791-814 for the belief in an independent external world, Ruth Garrett Millikan, *Language, Thought and Other Biological Categories* (Cambridge, MA: MIT Press, 1984) Griffiths and Wilkins, "Crossing the Milvian Bridge," and Paul Griffiths and John Wilkins, "Evolutionary Debunking Arguments in Three Domains: Fact, Value and Religion," in *A New Science of Religion*, eds. James Maclaurin and Greg Dawes (Routledge, forthcoming) for perception\representation, David Papineau, "The Evolution of Knowledge," in *The Roots of Reason* (Oxford: Oxford University Press, 2003), 39-82 for understanding of other minds, and Stephen Boulter "The 'Evolutionary Argument' and the Metaphilosophy of Commonsense," *Biology and Philosophy* 22 (2007):369-382 for memory.

⁶ See for example the discussion in Michael Bradie "Should Epistemologists Take Darwin Seriously?" in *Evolution, Cognition and Realism*, ed. Rescher, 33-38), Kahane, "Evolutionary Debunking Arguments," Shafer-Landau, "Evolutionary Debunking, Moral Realism and Moral Knowledge," 35, Justin Clarke-Doane, "Debunking Arguments: Mathematics, Logic and Modal Security," in *The Cambridge Companion to Evolutionary Ethics*, eds. Robert J. Richards and Michael Ruse (Cambridge: Cambridge University Press, forthcoming), section 3, and Jack Woods, "Mathematics, Morality and Self-Effacement," *Nous* (2016): section 4. Michael Vlerick and Alex Broadbent, "Evolution and Epistemic Justification," *Dialectica* 69, 2 (2015):185-203 come close to the problem, but their explication suffers, I think, from a basic mistake that compromises it (see fn. 10 for the basic mistake). Shafer-Landau, "Evolutionary Debunking, Moral Realism and Moral Knowledge," in particular, notes that evolutionary debunking arguments about a philosophical domain quickly over-generalize to domains that seem beyond serious epistemological doubt and, therefore, we need to disambiguate the metaepistemic norm in virtue of which debunking arguments run and confer unjustifiedness.

objects beliefs, cognitive illusions beliefs etc.) and it is difficult to discern a *principled* way of how such considerations are to be used.⁷ That is, it is difficult to discern what the regulative metaepistemic norm is in virtue of which evolutionary considerations are deemed to justify or debunk beliefs.

To be sure, the first-order, epistemic norm of reliability (and truth-trackingness) is the norm that the epistemic premise is relying on, but this is of little help to our meta-problem. This is the case because mere appeal to the epistemic norm of reliability will not do as it is unclear how we demarcate between processes that are reliable and generally on-track and processes that are unreliable and generally off-track. This is again the case because, in principle, evolutionary considerations may, on the basis of the causal premise, be invoked for or against the justification of beliefs depending on how we construe the ambivalent epistemic premise (i.e. involving an on- or off-track process). This is *the demarcation problem*.⁸ Let us illustrate the problem with an example.

⁷ Of note, is that evolutionary debunking arguments threaten to over-generalize and debunk even themselves (and virtually any other belief), which would be epistemically self-defeating. See Christos Kyriacou, "Are Evolutionary Debunking Arguments Self-Debunking?" *Philosophia* 44, 4 (2016): 1351-1366, "Expressivism, Question Substitution and Evolutionary Debunking," *Philosophical Psychology* 30, 8 (2017): 1019-1042, "Evolutionary Debunking: The Milvian Bridge Destabilized," for discussion of this theme. It is also important to note that some beliefs are rationally indubitable and, therefore, have to be exempt from any debunking. In particular, some rationally indubitable epistemic 'fixed points' have to be assumed as theoretically indispensable for any kind of rational inquiry (incl. debunking inquiry), see Christos Kyriacou, "From Moral Fixed Points to Epistemic Fixed Points," in *Metaepistemology* eds. Christos Kyriacou and Robin McKenna (London: Palgrave, 2018) for discussion. For a general introduction to metaepistemology, see Christos Kyriacou, "Metaepistemology," in *Internet Encyclopedia of Philosophy* (2016). URL=<https://www.iep.utm.edu/meta-epi/>.

⁸ Some may object that the alleged problem is trading on a conflation of different levels of analysis, namely, normative epistemological and metaepistemological. That is, when various philosophers appeal to evolutionary, causal considerations in order to help justify or debunk a belief, they are not in the metaepistemological business of providing a metaepistemic norm (or even a theory of justification). They are only in the normative business of weighing reasons for or against a belief and they see fitting to take evolutionary considerations into account. This objection, however, misses the point. The point is that such epistemic appeals to evolutionary considerations need to be grounded in a regulative metaepistemic norm, otherwise they would be merely ad hoc. It will not assuage the problem to point out that evolutionary theorists, metaethicists, cognitive scientists etc. are not in the business of traditional epistemological theorizing. The problem remains pressing. See William Alston, "Level Confusions in Epistemology," in his *Epistemic Justification* (Ithaca: Cornell University Press, 1989), 153-171 for discussion of 'level confusion' in epistemology that illustrates our point.

Some have appealed to evolutionary considerations in order to debunk moral and religious beliefs as unjustified while others have appealed to evolutionary considerations in order to justify moral and religious beliefs. The former have argued that evolution explains why we tend to have these sorts of beliefs and, given a plausible naturalistic epistemology, we have no good reasons to hold them because unreliable processes produce these beliefs.⁹ The latter have argued in Reidian-Plantingian style that evolution explains why we tend to have this sort of beliefs and the fact that they have, surprisingly, evolved, given a plausible ‘reformed epistemology,’ renders them *prima facie* justified as ‘properly basic.’¹⁰ These beliefs are justified because reliable processes produce them (at least insofar as they are functioning properly in hospitable conditions without defeaters). Thus, the appeal to evolutionary considerations could, in principle, go

⁹ See for instance Joyce, *The Evolution of Morality* and Street, “A Darwinian Dilemma,” on moral beliefs and Dawkins, *The God Delusion* on religious beliefs.

¹⁰ This is a distinctively Reidian, ‘reformed epistemology’ line of thought found in the work of Alvin Plantinga, *Warrant and Proper Function* (Oxford: Oxford University Press, 1993), William Alston, *Perceiving God* (Ithaca: Cornell University Press, 1991), Nicholas Wolterstorff, “Reformed Epistemology,” in *The Oxford Handbook of Philosophy of Religion*, ed. William Wainright (Oxford: Oxford University Press, 2008), 245-271 and James Clark Kelly, “Without Evidence or Argument,” in *Reason and Responsibility*, eds. Joel Feinberg and Russ Shafer-Landau (Boston MA: Cengage Learning, 2008), 164-168. Notably, Alvin Plantinga, “Is Belief in God Rational?” in *Rationality and Religious Belief*, ed. C. F. Delaney (Notre Dame: University of Notre Dame Press, 1979), 7-27 has argued that religious beliefs are justified because they are properly basic. Evolved processes that are reliable when functioning properly in hospitable conditions produce them. But the evolutionary process must have been “guided and orchestrated by God” (*Warrant and Proper Function*, 236), otherwise, given that natural selection opts for survival and reproduction and not strictly speaking truth, we would have no good reason to trust our cognitive faculties themselves, something that would lead evolutionary theory to epistemic self-defeat. This much recapitulates his ‘evolutionary argument against naturalism’ (see Griffiths and Wilkins, “Crossing the Milvian Bridge,” section 3 for criticism). Of note, is that Plantinga (“Is Belief in God Rational?”, *Warrant and Proper Function*) does not so much discuss moral beliefs, but it is rather obvious how his case for religious beliefs could carry over to the moral case. Indeed, in the same spirit, some have argued that natural selection tracks –imperfectly– moral facts (see Kevin Brosnan, “Do the Evolutionary Origins of Our Moral beliefs Undermine Moral Knowledge?” *Biology and Philosophy* 26 (2011):51-64 and William FitzPatrick “Debunking Evolutionary Debunking of Ethical Realism,” *Philosophical Studies* 172 (2015): 883-904. Moreover, Michael Huemer’s (“Compassionate Phenomenal Conservatism,” *Philosophy and Phenomenological Research* 74 (2007):30-55, *Ethical Intuitionism* (London: Palgrave MacMillan, 2008) ‘phenomenal conservatism’ idea is sufficiently similar to Reidian ‘reformed epistemology’ and has been applied to the *prima facie* justification of moral beliefs (although Huemer, *Ethical Intuitionism*, 54-60 is an antireductionist realist critical of attempts to ground a realist morality to God).

either way, justifying or debunking, depending on how we construe the ambivalent epistemic premise (i.e involving an on- or off- track process).

So, unless we can provide a metaepistemic norm that regulates the application of the first-order, epistemic norm of reliability and clarifies which processes are on-track and which are off-track, the first-order epistemic appeals to evolutionary considerations would seem ad hoc and question-begging and, therefore, unjustified. They would seem ad hoc and question-begging because they could, in principle, go either way due to underdetermination by evolutionary, causal considerations (as captured by the causal premise). Call this '*the adhocness problem.*'

The adhocness problem places a *constraint* for a plausible solution to the demarcation problem. Unless it is satisfied, the proposed metaepistemic norm cannot be the missing metaepistemic norm we are looking for. For the missing metaepistemic norm should be capable of demarcating under what conditions first-order appeals to evolutionary considerations should apply. Let us spell out a bit more the adhocness problem.

It is well-known that cognition is often beset with irrational biases, heuristics and effects, such as the confirmation bias and the affect heuristic.¹¹ Thus, in the absence of a regulative metaepistemic norm, we could subconsciously be appealing to evolutionary considerations in order to justify beliefs we want them justified because they are consoling and debunk beliefs we want them unjustified because they are disquieting.¹²

In such a scenario, we may be caught in a coherentist, inferential circle that perpetuates a confirmation bias driven by the affect heuristic. That is, we could have a coherent belief system that approves only what confirms the belief system on the basis of what we would like to believe. This is what Paul Boghossian in his *Fear of Knowledge*,¹³ calls 'norm-circular justification' and it is in essence a version of the well-known epistemic circularity problem.¹⁴

¹¹ See Daniel Kahneman, *Thinking, Fast and Slow* (London: Penguin, 2011), Jonathan Haidt, *The Righteous Mind* (London: Penguin, (2012)

¹² Such phenomena are well-studied by cognitive psychologists. See for example some of the discussion in Kahneman, *Thinking, Fast and Slow* and Haidt, *The Righteous Mind*. Philosophers have known of epistemic circularity since the conception of the Agrippan trilemma (or 'the problem of the wheel'). See Michael Williams, *Problems of Knowledge*. (Oxford: Oxford University Press, 2001)) for some discussion of the Agrippan trilemma about justification.

¹³ Paul Boghossian, *Fear of Knowledge* (Oxford: Clarendon Press, 2006), 79.

¹⁴ See William Alston, "Epistemic Circularity," in his *Epistemic Justification*, 319-349. An epistemic circularity problem has also been applied to reliabilism, namely, 'the bootstrapping problem' (see Jonathan Vogel, "Reliabilism Leveled," *Journal of Philosophy* 97, 11 (2000): 602-

In other words, in the absence of a regulative metaepistemic norm that could be used as a ‘measure stick’ of what is to be deemed justified and what is to be debunked as unjustified by appeal to evolutionary considerations, we could be trapped in a subtle confirmation bias and a vicious epistemic circle (driven by the affect heuristic) confirming as justified what suits us to think is justified and debunking what suits us to think is unjustified.¹⁵ Inevitably, in such cognitive conditions our reasoning would be epistemically defective (because it would be unreliable or, if reliable, only coincidentally so).

Of course, this is not how things ought to work in epistemic matters. *Prima facie*, beliefs can be justified or not independently of whether we would like them (un-)justified and we ought to believe what is justified, given evidence, not what we would like to be justified.¹⁶ But in order to avoid the adhocness problem, we need to ground epistemic appeals to evolutionary considerations on a metaepistemic norm that arbitrates the application of the epistemic reliability

623). The bootstrapping problem is, roughly, the problem that we need to assume the reliability of a process before moving on to rely on its doxastic output as reliable and at the same time we need to assume the reliability of the doxastic output if we are to rely on the reliability of the process. The upshot is that reliabilism is committed to a circularity problem. Michael Vlerick and Alex Broadbent, “Evolution and Epistemic Justification,” *Dialectica* 69, 2 (2015):185-203 have concurred that a circularity problem can be found in evolutionary arguments, but they go on to propose that we can distinguish between ‘virtuous, non-self-certifying’ circles and ‘vicious self-certifying’ circles *within* the framework of naturalism. This is, however, problematic because in the paper they just *assume* naturalism, which is viciously self-certifying in the most fundamental of ways because it begs the question against antireductionism about normativity, maths, modality, logic, religion etc. Thus, the problem remains at the fundamental metaphysical level. Unfortunately, I have to forgo detailed discussion here.

¹⁵ It is sometimes thought that theists tend to believe in some God due to the pragmatic, psychological utility this has (consoling beliefs in immortality, a Freudian father figure, life in heaven etc.). But the same ‘rationalizing’ style of reasoning applies to atheists’ psychology of belief as well. It can as easily be said that they tend not to believe in some God due to the pragmatic, psychological utility this has (absence of an independent ‘measure of all things,’ an authority figure, fear of punishment etc.) Thus, opium-of-the-people style of reasoning could go either way. See Guy Kahane, “Should We Want God to Exist?” *Philosophy and Phenomenological Research* 82, 3 (2011): 674-696 for discussion of a similar point due to Thomas Nagel.

¹⁶ See Haidt, *The Righteous Mind* for extensive empirical work confirming that our judgments are often driven by emotions, desires etc. and then reason, as a Humean obedient servant, hastens to offer post hoc rationalizations for these judgments. Of course, this empirical evidence need not vindicate any instrumentalism about moral or epistemic rationality. See McKay and Dennett, “The Evolution of Misbelief,” for some discussion of how and why we are prone to deceive ourselves.

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norm: which processes are reliable and on-track and which are unreliable and off-track. I conclude that we need some sort of metaepistemic measure stick for epistemic appeals to evolutionary considerations.