

How to Determine whether Evolution Debunks Moral Realism

ABSTRACT: Anti-realist evolutionary debunking arguments purport to show that if there were objective moral truths, then evolutionary evidence would suggest that our moral judgements are unjustified (which excludes or makes it unlikely that these truths exist). Recent controversies about these arguments can often be traced back to confusion about how its premises are to be supported or undermined. My aim in this paper is accordingly a clarificatory one. I will attempt to identify which kinds of philosophical or scientific evidence would have to be obtained in order to be able to properly assess evolutionary debunking arguments. It will emerge that philosophical inquiry can make a greater contribution than has often been acknowledged. Moreover, part of what makes these arguments so difficult to evaluate is that their philosophical and scientific aspects are very closely intertwined.

KEY WORDS: moral realism; moral judgement; evolution, evolutionary debunking argument; metaethics

Introduction

Most people in Austria believe that stealing and lying are morally wrong. But would these actions also be wrong if we ourselves or the majority within our culture would not have these beliefs? More generally, are there *any* things that are objectively morally right or wrong, good or bad, and so on (i.e., independently of what anybody thinks about them)? Moral realists believe that such objective moral truths exist (e.g., Brink 1989; Huemer 2005; Shafer-Landau 2003). Anti-realists, in contrast, deny them. As they see it, sentences such as “Stealing is morally wrong” or “Lying is morally wrong” are either not truth-apt at all (e.g., Blackburn 2000); are all false (e.g., Mackie [1977] 2011); or are, if true, only subjectively true (e.g., Harman 1996).¹

To answer the question of the existence of objective moral truths, philosophers have traditionally engaged in rational argument and reflection. In recent years, however, an increasing number of moral realists and anti-realists have also begun to appeal to the results of scientific studies. The most prominent instantiation of this novel scientific approach are so called “evo-

¹ This is the most common way of understanding the moral realism/anti-realism debate that is also assumed by most proponents of evolutionary debunking arguments. For an alternative semantic definition see, e.g., Sayre-McCord 1988.

lutionary debunking arguments” (e.g., Joyce 2007; Kahane 2006; Street 2006). These arguments — understood as arguments against moral realism — have the form of *reductiones ad absurdum*. They purport to show that if there were objective moral truths, then evolutionary evidence would suggest that our moral judgements are epistemically unjustified. But that our moral judgements are unjustified excludes or makes it unlikely that objective moral truths exist. Hence, we have reason to reject these truths.

Why would evolutionary evidence suggest that our moral judgements are unjustified (under the assumption of the truth of moral realism)? Proponents of evolutionary debunking arguments have provided a number of different explanations. Here I will assume what I take to be the most plausible of these explanations, which has been suggested by Richard Joyce (2001, 2005, 2007, 2008, 2013a, 2013b, 2013c, 2016). Joyce argues that moral judgements are products of evolution in the sense that they are biological adaptations, i.e., explained by the process of natural selection. Natural selection seems to be “off-track” with regard to moral truth. It leads us to make moral judgments independently of whether these judgments are true. Therefore, Joyce argues, we lack any justification for making these judgements.

Suppose that the actual world contains real categorical requirements – the kind that would be necessary to render moral discourse true. In such a world humans will be disposed to make moral judgments [...], for natural selection will make it so. Now imagine instead that the actual world contains no such requirements at all – nothing to make moral discourse true. In such a world humans will still be disposed to make these judgments [...], just as they did in the first world, for natural selection will make it so. What this shows is that the process that generates moral judgments exhibits an independence relation between judgment and truth, and these judgments are thus unjustified. If, therefore, we examine no other evidence, if we look only at the fact that humans make moral judgments, and endorse the hypothesis for which I have argued regarding the processes that yield these judgments, then we have no evidence one way or the other concerning the truth of the judgments. In such a situation we should, like good old-fashioned skeptics, withhold assent on the matter. (Joyce 2001: 162-163)

Assuming Joyce’s explanation of why evolutionary evidence would epistemically undermine our moral judgements (given the truth of moral realism), anti-realist evolutionary debunking arguments can be summarized as follows:

(P1) If objective moral truths exist, then:

(P1-1) Moral judgements are adaptations, i.e., explained by natural selection.

(P1-2) Natural selection is off-track with regard to moral truth, i.e., it leads us to make moral judgements independently of whether these judgements are true.

(P1-3) If a person's judgement is caused by a process that is off-track with regard to this judgement then the person's judgement is unjustified.

Ergo: Moral judgements are unjustified.

(P2) That moral judgements are unjustified excludes or makes it unlikely that objective moral truths exist.

Ergo: We have reason to believe that objective moral truths do not exist.

Most discussants, even most moral realists, readily accept evolutionary debunking arguments' second premise and validity (see, e.g., Shafer-Landau 2012: 1; and in non-evolutionary contexts Brink 1989: 155; Nagel 1989: 139).² But is it also the case that if there were objective moral truths then evolutionary evidence would undermine our moral judgements' justification? This sub-argument — the core of evolutionary debunking arguments — has sparked significant controversy. While it has staunch defenders, even more researchers have emphatically rejected it (e.g., Brosnan 2011; Enoch 2010; FitzPatrick 2014; Shafer-Landau 2012; Wielenberg 2010).

In my view much of the disagreement about evolutionary debunking arguments' first premise can be traced back to confusion about how its sub-premises are to be supported or undermined. Discussants have even started from differing assumptions about whether the relevant evidence is philosophical (in the sense of requiring conceptual analysis, rational reflection, introspection, etc.) or scientific (in the sense of requiring experimentation and observation).³ My aim in this paper is accordingly a modest clarificatory one. I will not argue for or against the claim that evolutionary evidence would undermine moral judgements' justification, given the truth of moral realism. Rather, I will attempt to identify which kinds of philosophical or scientific evidence would have to be obtained to be able to properly conduct such an assessment.

² For a recent argument to the effect that moral skepticism entails anti-realism see Rowland 2017: 804-812.

³ The distinction between philosophical and scientific evidence is of course vague and non-exclusive. Many philosophical theses involve empirical assumptions that can be investigated by scientific methods; and assumptions and concepts in scientific research often require philosophical analysis. Yet there is a sense in which certain theses are typically of interest to philosophers and others are typically of interest to scientists. I take it that this suffices for the preceding considerations to be illuminating.

Evolutionary debunking arguments' core sub-argument involves three claims: (P1-1) moral judgements are adaptations, (P1-2) natural selection is off-track with regard to moral truth, and (P1-3) if a person's moral judgement is caused by a process that is off-track with regard to this judgement then the person's judgement is unjustified. In the following Sections I will analyze these claims in turn. For each of them I will identify the main philosophical and scientific questions that would have to be answered in order to support or undermine them (with an emphasis on more surprising and neglected findings). It will emerge that philosophical inquiry can make a greater contribution to evaluating evolutionary debunking arguments than has often been acknowledged. Moreover, part of what makes these arguments so difficult to assess is that their philosophical and scientific aspects are very closely intertwined.

First Sub-Premise: Adaptedness

Anti-realist debunking arguments can be grounded in all sorts of empirical hypotheses. The argument that is at issue in this paper starts from the claim that moral judgements are adaptations — a claim that will henceforth be referred to as the “adaptation hypothesis”. How can the adaptation hypothesis be supported or undermined?⁴ An important first step in answering this question is to clarify the hypothesis' content. This requires philosophical inquiry; in particular, investigations in the philosophy of biology and in metaethics.

Adaptations

Take, first, the hypothesis' notion of adaptation. It is widely agreed that a trait⁵ is an adaptation if and only if it has emerged because of natural selection.⁶ However, the precise workings of natural selection are contested. Most importantly, evolutionary biologists hold differing views about whether the selection of a trait is determined by its effect on individuals (individual selection), its effect on groups (group selection), or its effect on both (multilevel selection) (e.g., Williams 1966 vs. Wilson and Sober 1994).

⁴ This Section draws on Pölzler 2017 and 2018.

⁵ In this paper I will use the term “trait” in a very broad sense. It refers to any distinct physiological, morphological, psychological or behavioral characteristic of an organism's phenotype. This means that it even makes sense to speak of the *trait* of making moral judgements (as making moral judgements is an observable psychological characteristic of humans).

⁶ Some traits — so called “vestiges” — have emerged because of natural selection, but are not maintained by it. In the species' present environment they do not have any (significant) fitness-advantages or are even disadvantageous. On my above definition, vestiges are adaptations (Sober 1993: 84). Other philosophers of biology consider them to be non-adaptive traits (Griffith 1993: 416-418).

Based on the theory of individual selection, which is most widely accepted, the adaptation hypothesis' "adaptation"-part can be analyzed as involving three distinct claims (see, e.g., Buss et al. 1998: 534-535; Lewontin 1970: 1). First, it entails that moral judgements are heritable in the sense of resulting (at least in some indirect sense) from the expression of genes. One way of explicating this idea has been proposed by Millikan (1984). Drawing on her theory, moral judgements might be claimed to form a higher-order "reproductively established family" (Millikan 1984). While these judgements are similar to those of our genetic predecessors, they have not been directly copied from them. They are rather produced by genes that were such direct copies. Second, natural selection also requires variation. Mutations, genetic drift and other factors must have led some of our ancestors to develop the trait of making moral judgements, while others lacked this trait. And third, in past environments making moral judgements must have had a positive differential effect on our ancestors' biological fitness. Those who made such judgments must on average have passed on a higher proportion of their genes to the next generation than those who did not make them (they must have been more reproductively "successful").

Having adopted a conception of what it means for a trait to be an adaptation, it might seem that investigating the adaptation hypothesis is a straightforward and exclusively scientific endeavor. In order to support or undermine that moral judgements are adaptations discussants merely need to provide relevant evolutionary evidence (as it is appealed to with regard to any non-moral adaptation hypothesis as well). However, in the case of moral judgements, providing such evidence turns out to be neither straightforward nor an exclusively scientific endeavor at all.

To begin with, it is highly unclear what would count as evidence for or against moral judgements being adaptations. In light of the trait's psychological nature and human uniqueness many traditional sources of evidence (such as the investigation of fossils and certain cross-species comparisons) are unavailable (see Machery forthcoming). Inquiries into the adaptedness of moral judgements are also exacerbated by fundamental theoretical disagreements about the relative importance of adaptations in general. While "empirical adaptationists" believe that the large majority of organisms' traits are explained by natural selection, and "Evolutionary Psychologists" believe that this at least holds true for psychological traits, many other researchers have also stressed the role of by-products and randomly evolved traits (see, e.g., Stephens et al. 2007 vs. Gould and Lewontin 1979; and Barkow et al. 1992; Buss 2004; Tooby and Cosmides 2005 vs. Buller 2005; Richardson 2008).

So far discussants of the adaptation hypothesis have mainly appealed to three kinds of evidence. They have argued that moral judgements are or are not adaptations because these judgements (1) are or are not universal (i.e., had by almost all humans at almost all times), (2) develop or do not develop in the face of impoverished stimuli (i.e., in environments that do not provide the information that would be necessary to acquire these judgements by empirical learning), and (3) appear or do not appear to be designed (i.e., are or are not reliable, efficient, economic and specific solutions to adaptive problems) (e.g., Joyce 2007: 10, 62-64, 115, 118, 134-137; Hauser 2006: 53; Machery and Mallon 2010: 14-16, 24-36; Street 2006: 115).

Elsewhere I have argued that taken by itself, evidence of these kinds is insufficient to support or undermine the adaptation hypothesis. For such arguments to work it would also have to be shown that the truth or falsity of this hypothesis *best explains* why moral judgements are or are not universal, develop or do not develop in the face of impoverished stimuli, and appear or do not appear to be products of design (better than the hypotheses that moral judgements are by-products of some other traits, mere random noise, or not products of evolution at all). But so far such evidence has not been provided. Worse, there are reasons to believe that in some cases it may be difficult or even impossible to adjudicate between the adaptation hypothesis and its rivals at all (Pölzler 2017, 2018; see also Joyce 2013a: 134-135).

Moral Judgements

Not only is assessing the adaptation hypothesis by no means straightforward; it is also not an exclusively scientific matter. In my view much of researchers' disagreement about the adaptedness of moral judgements is due to the fact that they have failed to sufficiently clarify their hypotheses' "moral judgements"-part (which has made their arguments difficult to evaluate and has led to a fair amount of fallacious reasoning and ungrounded objections, as in Korsgaard 2010; Prinz 2008; Ruse 1998, 2009; Ruse and Wilson 1986). This part of the hypothesis raises two primarily philosophical questions. First, what does it mean to make a moral judgement at all? And second, provided a certain account of this meaning, in which sense are moral judgements supposed to be adaptations?

Metaethicists notoriously disagree about the meaning of moral judgements. One of their most important semantic questions concerns whether these judgements purport to represent objective moral facts (e.g., Blackburn 2000; Mackie [1977] 2011; Harman 1996). In the context of evolutionary debunking arguments this question must be answered affirmatively. In other words, proponents of these arguments need to show that moral judgements *qua* judge-

ments about objective moral facts are adaptations. This is because evolutionary debunking arguments attempt to show that *if* moral realism were true *then* it would be problematically committed to moral judgements being unjustified; and moral realism does not only entail that objective moral facts exist, but also that our moral judgements purport to refer to these facts. (If we did not purport to refer to objective facts when we think about morality then how could any kind of objective facts possibly deserve to be called “moral”?; see Loeb 2008: 355, 359-360)

In addition to this question of reference, the meaning of moral judgements is contested in numerous other respects as well. Metaethicists have disagreed about whether these judgements entail motivation to act according to them, whether they must be overriding, whether they can only apply to issues of harms and benefits, and so on. In order for the adaptation hypothesis to be testable its proponents and critics — even if they are biologists — must take a stance on at least some of these debates; only then can one properly assess whether moral judgements are universal, develop in the face of impoverished stimuli, appear to be designed, and so on. As I have also shown in detail elsewhere (Pözlner 2017, 2018), which stance one takes can sometimes significantly influence the adaptation hypothesis’ plausibility.

Take, for example, the question of whether moral judgements can only apply to issues of harms and benefits (as affirmed, e.g., by Foot 1958: 510, and denied by Haidt and Björklund 2008; Haidt and Graham 2007; Haidt and Joseph 2004). Above we have seen that some proponents of the adaptation hypothesis have argued that moral judgements are adaptations because they are made by almost all humans at almost all times. If moral judgements can be about other things besides harms and benefits as well — such as about ingroup/loyalty, authority/respect and purity/sanctity — then this universality claim is more plausible than if their content is limited to harms and benefits. After all, other things being equal, more judgements can qualify as moral.

Specifying one’s account of moral judgements is necessary but still not sufficient for enabling proper assessments of the adaptation hypothesis. This is because moral judgements (on any given specification) can be explained by natural selection in different senses (see, e.g., Ayala 2009; Joyce 2007, 2013b; Pözlner 2017, 2018). Most importantly, the adaptation hypothesis is ambiguous in that it leaves open how *functionally specific* moral judgements are (Did they increase our ancestors’ fitness in a distinct way or in the same way as other normative judgements?), *which* moral judgements are adaptations (In particular, all or only some of

them?) and what *aspect* of them is explained by natural selection (Is it the content of these judgements, our capacity to make these judgements, or both?).

Depending on how one specifies the relevant sense of adaptedness, the adaptation hypothesis requires different kinds of evidence. Compare, for example, the following two versions: (A1) humans' judgement that incest is morally wrong is an adaptation, (A2) humans' general capacity to make moral judgement is an adaptation. In order to support A1 by means of a universality argument proponents of the adaptation hypothesis would have to show that almost all humans at almost all times have judged incest to be wrong. Substantiating A2 in this way, in contrast, would require showing that almost all humans at almost all times have made some moral judgements or others. This claim would even be supported by humans judging incest to be *not* morally wrong.

Some discussants have claimed that evolutionary debunking arguments can be grounded in any version of the adaptation hypothesis (Kahane 2011: 111; Vavova 2015: 104). Kahane, for example, writes: "It's important to see that it does not matter whether any particular evolutionary explanation is true. What matters is that some such story is likely to be true" (2011: 111). This claim is doubtful. Take, for example, again the hypothesis that moral judgements are adaptations in that humans have an adaptive tendency to judge incest to be morally wrong. Even if natural selection were off-track with regard to this judgement, and off-trackness undermined justification, any evolutionary debunking argument that was grounded in this hypothesis could only show that we are unjustified to judge incest to be morally wrong. But this claim — though interesting for other reasons — is perfectly compatible with moral realism. It allows that we have good reasons to make many other moral judgements.

That only specific variants of the adaptation hypothesis can ground evolutionary debunking arguments suggests another philosophical task for its proponents. They must show, by way of argumentation, that the specific hypothesis that they assume would really support that all of our moral judgements are unjustified, and would hence threaten moral realism (for a more detailed discussion of which versions may meet this condition see again Pölzler 2018).

To sum up, assessing evolutionary debunking arguments' first premise is an ambitious and theoretically controversial endeavor. Discussants have rightly assumed an important role for empirical evidence. But we have seen that whether moral judgements are adaptations also strongly depends on one's stance towards a broad variety of issues in the philosophy of biology and in metaethics. Some discussants, including Joyce (e.g., 2007, 2013b), have already

acknowledged and begun to account for these contingencies on philosophical debates. But many others have so far failed to do so.

Second Sub-Premise: Off-Trackness

Let us assume that moral judgements are explained by natural selection. According to evolutionary debunking arguments' second sub-premise, natural selection fails to track the truth of these judgements. It is rather an "off-track" process of judgement formation. In what follows I will consider what it would take to support or undermine this second sub-premise.

The obvious first question to ask is what is meant by "off-track". In the context of evolutionary debunking arguments this notion has been understood in various different ways (for discussion see Joyce 2013; Sinclair 2018). For example, it has been claimed that on the assumption of moral realism natural selection would be off-track in the sense that it is *insensitive* to moral truth (e.g., Joyce 2001; Wielenberg 2010; see below), in the sense that it renders moral truth *explanatorily irrelevant* (any moral judgement could be explained without appealing or assuming this judgement's truth; e.g., Joyce 2007), and in the sense that it is *unreliable* with regard to moral truth (it would not produce mostly true moral judgements; e.g., Clarke-Doane 2018; Wielenberg 2010). Depending on which of these conceptions of off-trackness one assumes, the claim that natural selection is off-track must be substantiated by different evidence.

For the sake of simplicity, I will henceforth limit myself to discussing off-trackness *qua* insensitivity (which is the conception that Joyce endorsed at one point and that has been most prominent). On this conception a process of judgement formation tracks the truth if it generally lead us to judge that p only if it is true that p. Take, for example, your sense of vision and your basic arithmetic capability. Your sense of vision typically would not lead you to judge that you are reading a book unless you were in fact reading a book; and your capacity for basic arithmetic typically would not lead you to judge that two plus two equals four unless two plus two in fact did equal four.

These truth-tracking processes contrast both with falsity-tracking⁷ and – this is the relation that is relevant for our purposes – off-trackness. In the sensitivity sense a process of judgement formation is off-track if it generally leads us to judge that p whether or not it is true

⁷ Only few judgement formation processes are falsity-tracking. A potential example is provided by a rebellious teenager who generally believes the opposite of what her mother asserts. Assuming that the mother's beliefs are mostly true, this process generally leads the teenager to make a judgement only if the judgement is false.

that p; just like, for example, hallucination, motivated reasoning and astrology lead people to make judgements irrespective of these judgements' truth (Joyce 2001: 160-165; see also, e.g., Kahane 2011: 105; Sober 1994: 105).

Proponents of evolutionary debunking arguments (in their sensitivity version) believe that with regard to tracking objective moral truths, natural selection does not do any better than hallucination, motivated reasoning and astrology. Natural selection tracks biological fitness. If it explains a certain kind of judgements then, by definition, this kind of judgement has increased our ancestors' biological fitness to a higher degree than alternative traits. But moral judgements seem to have increased our ancestors' biological fitness irrespectively of whether they were true. For example, the judgement that incest is morally forbidden would have increased their probability of refraining from incest, and hence promoted their biological fitness, even if this judgement were false (i.e., even if incest in fact were not morally forbidden) (Joyce 2001: 164).

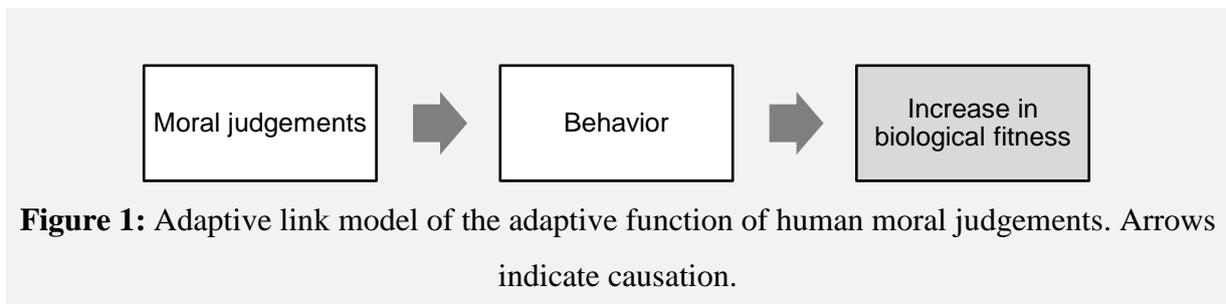
How can we determine whether this off-trackness claim about natural selection's relation to moral truth is correct? At first sight it might seem that the required evidence is identical to the evidence about the hypothesis that moral judgements are adaptations. In fact, the adaptation hypothesis seems to *entail* that moral judgements result from an off-track process. Kahane, for example, seems to endorse this view when he characterizes the adaptation hypothesis as the "converse claim" of the view that moral judgements are truth-tracking:

[...] for the [debunking] argument to go through it might be enough if enough is said to make the truth of this premise [the premise "We believe that p, an evaluative proposition, because we have an intuition that p, and there is an evolutionary explanation of our intuition that p", T. P.] significantly more plausible than the converse claim that the belief was formed by processes that are truth tracking. (Kahane 2010: 111)

However, as has been acknowledged by Joyce (2007) and several other discussants of evolutionary debunking arguments, there are good reasons to believe that Kahane's entailment thesis is wrong. Even if moral judgements are explained by natural selection they may still be shown to have truth-tracking origins. In particular, critics of evolutionary debunking arguments may suggest (1) tracking models of moral judgements' adaptive function, and (2) truth-tracking accounts of moral judgements' proximate causes.

Tracking Models

The first way in which the adaptation hypothesis might be reconciled with truth-tracking concerns moral judgements' adaptive function; that is, the question of how these judgements increased our ancestors' biological fitness. Proponents of evolutionary debunking arguments have favored “adaptive link” models of this function (Street 2006: 127). Such models state that moral judgements increased our ancestors' biological fitness by making them (more) likely to engage in certain fitness-enhancing behaviors (see Fig. 7). According to Joyce (2007: 13-73), for example, moral judgements increased early humans' fitness by making them more likely to help other individuals (which was fitness-increasing because the recipients of the help often shared copies of their own genes and their help was often returned later).



At first sight the adaptive link model seems to entail that moral judgements are generated by an off-track process. For example, would not our ancestors' judgement that helping is good have led them to help others more often and reliably irrespectively of whether helping is actually good (just as with the incest example above)? We will see in the next Section that this natural assumption might be challenged by so called “third factor explanations”. However, even if it were true that the adaptive link model entails off-track origins this would still fall short of establishing Kahane's claim that the *hypothesis that moral judgements are adaptations* entails such origins. This is because proponents of this hypothesis may attempt to explain moral judgements in alternative truth-tracking ways as well: by a so called “tracking” model of moral judgements' adaptive function (Street 2006: 126).

Tracking models of a trait's adaptive function claim that the trait increased our ancestors' biological fitness by allowing or leading them to grasp a certain kind of truths. Consider again humans' basic arithmetic capability. Having been chased by three lions, and having observed that two of them had stopped, an early human may have wondered whether it was safe to slow down. In this situation (as well as in many others) only a true arithmetic judgement would have been reproductively useful. Our basic arithmetic capability was hence “designed” to

track the truth. It only leads us make the arithmetic judgements that we make because these judgements are by and large true (see James 2011: 180; Joyce 2007b: 182).

Some proponents of the adaptation hypothesis have proposed that human moral judgements results from truth-tracking selective forces as well. The reason why we make these judgements is that they allowed our ancestors to grasp moral truths which increased their biological fitness (see Fig. 9). According to Parfit, for example, “it is possible that just as cheetahs were selected for their speed, and giraffes for their long necks, the particular feature for which we were selected was our ability to respond to reasons and to rational requirements” (quoted according to Street 2006: 125-126).

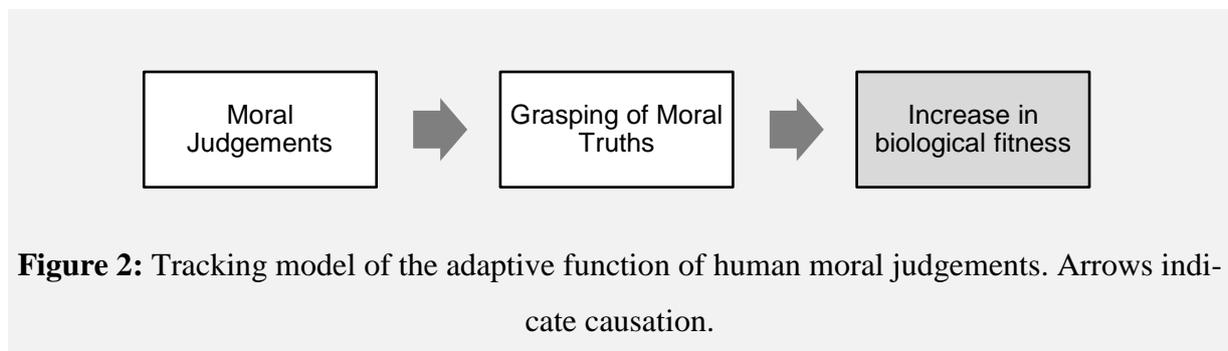


Figure 2: Tracking model of the adaptive function of human moral judgements. Arrows indicate causation.

If any such tracking model of moral judgements’ adaptive function were true then these judgements would result from a process that tracks their truth even though they are a product of natural selection.

Proximate Causes

The above objection against evolutionary debunking arguments’ off-trackness claim attempts to show that *natural selection* tracked the moral truth. But even if natural selection did not track this truth the adaptation hypothesis may still be compatible with moral judgements having truth-tracking origins. This is because besides natural selection, a full explanation of moral judgements requires reference to (potentially truth-tracking) non-evolutionary processes as well.

Biologists distinguish between ultimate and proximate explanations of traits (Mayr 1961).⁸ Ultimate explanations tell us why an organism has a trait. Proximate explanations, in contrast, specify how the trait comes about within an organism’s lifetime; in terms of its im-

⁸ Although the distinction between ultimate and proximate explanations is widely accepted, it should not go unmentioned that it has recently been subject to increasing criticism (see in particular Laland et al. 2011).

mediate genetic, developmental and environmental causes. An important fact about the relation between these two kinds of explanations is that ultimate explanations do not entail or obviate the need for proximate explanations. For example, even if we knew that croaking in male frogs serves the adaptive function of attracting females (ultimate explanation), a full understanding of this behavior would also require investigating how it comes about more immediately; for example, to what extent it depends on factors such as day length, development of gonads and sexual hormones (proximate explanation) (Voland 2000: 12).

The adaptation hypothesis provides an exclusively ultimate explanation of moral judgements. Given the complementary nature of ultimate and proximate explanations, this means that even if this hypothesis entailed off-track origins it could still be the case that moral judgements are partly generated by truth-tracking processes, all things considered — for these judgements’ *proximate causes* could track the moral truth (Mogensen 2015). As Mogensen stresses, “we can’t infer that moral facts do not explain our moral beliefs simply because beliefs of that kind have evolved as a result of truth-indifferent selection pressures” (2015: 2002).

As an example, consider Joyce’s preferred proximate explanation. According to this explanation, for individuals to acquire moral concepts within their lifetimes they need to experience certain emotions, such as guilt (Joyce 2007b: 123-133; 2009: 71-73). But why assume that these emotions are off-track with regard to moral truth? Critics of evolutionary debunking arguments may attempt to show that if moral rightness, wrongness, goodness, badness, etc. did not exist then the relevant emotions would not lead us to judge that things exemplify these properties (see, e.g., Allman and Woodward 2008; Jones 2006). In this case our moral capacity would turn out to be partly generated by truth-tracking processes after all.

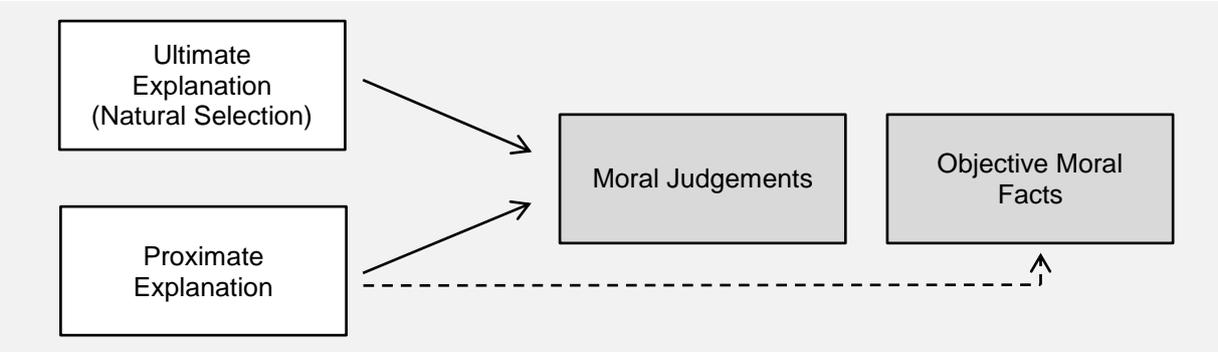


Figure 3: Model of truth-tracking proximate causes of moral judgements. Continued arrows indicate (partial) causation. Dashed arrow indicates tracking.

Our above considerations have shown that for the hypothesis that moral judgements are adaptations to entail that they result from an off-track process at least two additional claims need to hold. First, an adaptive link account of moral judgements' adaptive function must be better supported than the tracking account. And second, in addition to natural selection, moral judgements' proximate causes must be off-track with regard to moral truth as well.

The point of identifying and explaining these assumptions was not to establish that any of them is true (i.e., that natural selection or moral judgements' proximate causes indeed track the moral truth). It was only to work out what would have to be shown to establish evolutionary debunking arguments' second sub-premise. In my view, the result of this investigation again suggests that in addition to empirical evidence, philosophical inquiry is inevitable to testing this sub-premise as well.

According to the off-trackness claim's first assumption, the adaptive link model is to be preferred over the tracking model. Whether this assumption holds strongly depends on which conception of moral facts evolutionary debunkers attribute to moral realism. Suppose, for example, they target a version of moral realism which postulates moral facts that cannot have causal effects (e.g., Audi 1997; Enoch 2011). On this conception the tracking model is much less plausible than if moral facts are construed as causally efficacious. For how else, if not by causation, could grasping moral facts have increased our ancestors' biological fitness (see Street 2006: 131)? Evolutionary debunkers can hence strengthen their off-trackness claim by arguing in favor of certain conceptions of moral facts (such as non-causal moral facts), while critics can bolster their objections by arguing for alternative conceptions (such as causal moral facts).

Philosophical inquiry will also be important in assessing whether moral judgements' proximate causes track the truth. Recall, for example, Joyce's hypothesis that experiencing certain kinds of emotions is developmentally necessary for enabling these judgements. This proximate explanation is only compatible with his evolutionary debunking argument if emotions fail to track the moral truth. But whether this is the case depends both on one's conception of emotions (the more "cognitivist" this conception, i.e., the more emotions involve cognitive assessments of stimuli, the more likely they are to track moral truths) and again on one's conception of moral truth itself (the closer this truth is connected to emotions, the more likely it can be tracked by emotions).

To sum up, just like with the adaptation hypothesis, determining whether natural selection (and moral judgements' proximate explanation) is off-track with regard to moral truth touches on a surprising number of empirical and philosophical issues. Proponents and critics of evolutionary debunking arguments may in particular try to bolster their assessments of this sub-premise by adopting specific conceptions of realists' purported objective moral truths.

Third Sub-Premise: Lack of Justification

Suppose proponents of evolutionary debunking arguments are right that moral judgements are explained by natural selection and that natural selection (as well as these judgements' proximate causes) is off-track with regard to moral truth. In order for these claims to entail that moral judgements are unjustified it must also be the case that if a person's moral judgement is caused by a process that is off-track with regard to this judgement then the person's judgement is unjustified.⁹ Unsurprisingly, assessing the correctness of this claim is a philosophical task.

The Epistemic Luck Argument

Proponents of evolutionary debunking arguments have typically motivated off-trackness's purported negative epistemic implications by considering specific cases. Joyce, for instance, asks us to imagine that John judges Sally to be "out to get him". It turns out that this judgement is due to clinical paranoia. John would make it no matter what — if Sally was not out to get him just as well as if she was in fact out to do so. This finding, Joyce suggests, entails that John has no reason to judge Sally to be out to get him (at least as long as he hasn't acquired independent evidence for Sally's plans) (Joyce 2001: 159-160). In the same way the fact that moral judgements have evolved from off-track natural selection is supposed to show these judgements to be unjustified as well (at least as long as we haven't acquired independent evidence for the truth of some of them).

Cases like Joyce's paranoia example are instructive. To the extent that they conform to our intuitions, they may also count as (weak) evidence for the off-trackness premise. At the same time it is important to note, however, that these cases do not release evolutionary de-

⁹ Most evolutionary debunkers have acknowledged that in order for a person's judgement to be unjustified it must not only be the case that the judgement arose from an off-track process, but also that the person is aware that it is the product of such a process (Joyce 2007b: 181; Kahane 2011: 105). For the sake of simplicity, I will here abstract from this qualification.

bunkers from the duty to explain *why* a judgement formation process's being truth-insensitive renders its outputs unjustified. The most natural explanation of this claim — hinted at by at least some discussants (e.g., Joyce 2016: 146; Shafer-Landau 2012: 16-17) — is based on the notion of epistemic luck (or accidentality).

For a process of judgement formation to be off-track means that it lacks any connection to the truth of the judgements that it generates. This does not (as some early debunkers have suggested; e.g., Ruse 1995: 270) entail that the judgement is false or even only probably false. However, proponents of these arguments hold that the fact that a person's judgement has arisen from an off-track process at least means that *if this judgement turns out true* then the person was just lucky to have arrived at this true judgement. And this kind of epistemic luck seems to be incompatible with the judgment being justified. As Joyce notes, “[a] justified belief, if true, cannot be true by accident. What makes it justified is that it connects to the facts in the appropriate manner” (Joyce 2016: 146).

One issue that must be addressed in assessing evolutionary debunking arguments' off-trackness premise hence is the implications of epistemic luck (e.g., Ichikawa and Steup 2012; Pritchard 2005). Which kind of epistemic luck is involved in cases where truth-insensitive judgement formation processes lead to true judgements? And does this kind of luck really undermine justification? In addition, critics of evolutionary debunking arguments may try to show that off-trackness does not entail (the relevant variant of) epistemic luck in the first place. This strategy has taken the form of so called “third factor explanations” (e.g., Brosnan 2011; Enoch 2010; Wielenberg 2010).

Third Factor Explanations

Unlike the tracking models introduced in the last section, third factor explanations do not claim that persons make judgements *because* these judgements are true. They rather propose an indirect link between judgements' (off-track) origins and their truth. In particular, there is supposed to be a “third factor” that is both part of the explanation of why persons make the judgements and why the judgements are true. This factor promotes that the judgements and their truth reliably come together — in the sense of what has traditionally been called a “pre-established harmony” (Leibniz [1714] 1965).

As an example of a third factor explanation, consider self-critical Susie. Whenever Susie faces a challenge she judges that she will fail. These judgements do not result from considering relevant evidence (such as the nature of the challenges or her abilities) but from the influ-

ence of a hyper-critical mother. While this process of judgement formation is off-track, it is nevertheless not mere luck if Susie's judgements come out true. For the self-critical attitude that causes Suzy to judge that she will fail likely also makes her so anxious that she often in fact will fail. The attitude is part of the explanation of why many of her failure judgements are true.

Analogously, many critics of evolutionary debunking arguments have argued that some factor both (partly) explains why we make moral judgements and why some of them are true as well. This third factor is typically supposed to be the fact that moral rightness, wrongness, goodness, badness, etc. are identical to or supervene upon facts that figure in our best adaptive link model of moral judgements' adaptive function. David Enoch, for example, assumes that "survival or reproductive success (or whatever else evolution 'aims' at) is at least somewhat good" (2010: 430):

Selective forces have shaped our normative judgments and beliefs, with the "aim" of survival or reproductive success in mind (so to speak). But given that these are by-and-large good aims—aims that normative truths recommend—our normative beliefs have developed to be at least somewhat in line with the normative truths. (Enoch 2010: 430)

Kevin Brosnan argues that our off-track moral judgements' correlation with their truth is explained by the fact that helping others is good:

Consider the belief that cooperation with others is morally good. Suppose that this belief was favored by natural selection because it enhanced our capacity for helping behavior; individuals who believe that cooperation is morally good are more likely to help others than are individuals who lack this belief. The helping behavior that this belief generates has two effects: it promotes fitness, and it promotes wellbeing. The former effect is what explains why it might evolve by natural selection. The latter effect is part of what may explain why it is that cooperation in fact is morally good. If what's morally good has to do with behaviors that promote rather than hinder wellbeing, then part of what makes cooperation good is that it typically has this effect. (Brosnan 2011: 60)

If any such third factor explanation were right then, even given the off-trackness of natural selection and moral judgements' proximate causes, it would *not* seem to be mere luck if some of our moral judgements turned out true. The inference from off-trackness to a lack of moral justification would seem to be invalidated.

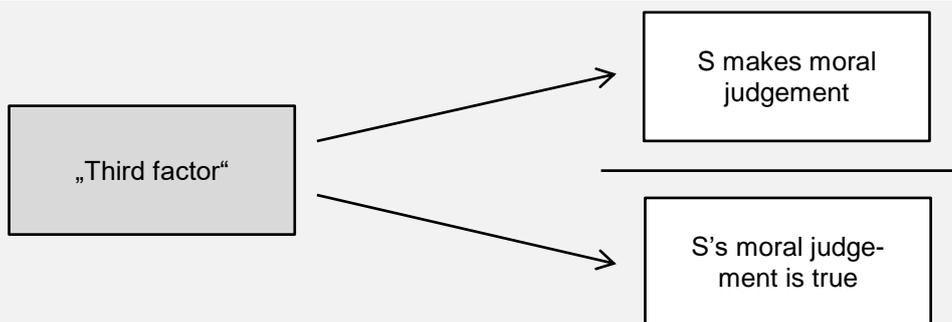


Figure 4: Model of third factor explanations of off-track moral judgements’ correlation with their truth. Arrows indicate (partial) causation.

But is any third factor explanation plausible? Answering this question again requires consideration of a broad variety of controversial philosophical issues. Here I will just mention two of these issues.

First, assuming a third factor explanation, arriving at true moral judgements because of natural selection does not involve luck from a third-person perspective. But luck would still be involved from the perspective of the persons making the judgements; for these persons did not base their judgements on relevant evidence. If asked, they could not explain why incest is wrong, why helping is good, and so on. On some theories of justification (so called “internalist” theories) establishing this first-person kind of epistemic luck is sufficient to defeat justification. The prospects of third factor responses are thus contingent on the plausibility of “externalist” theories of justification, according to which a judgement can be justified by facts that are external to our minds (such as the reliability of our judgement formation processes) (see FitzPatrick 2014: 253-254).

A second philosophical issue that bears on third factor explanations concerns their identity or supervenience claims. Proponents of these explanations assume that survival or reproductive success (Enoch), helping (Brosnan) or other evolution-related things are morally good. But it is not clear that their reliance on these assumptions is warranted. After all, proponents of third factor explanations acknowledge that moral judgements’ ultimate and proximate causes are off-track with regard to moral truth; and the above identity or supervenience claims seem to origin from these very off-track causes (see Shafer-Landau 2012: 33-34). In order for third factor responses to succeed it might thus be necessary to show that identity or supervenience claims about the goodness of survival or reproductive success, helping, and so

on can (mainly) be justified by non-moral capacities. Whether such a justification is possible is again highly controversial.

To sum up, assessing whether a judgement's off-track origins undermine its justification is a philosophical issue. It specifically requires investigating a number of epistemological issues, such as the implications of certain kinds of epistemic luck and the nature of (moral) justification.

Conclusion

Anti-realist evolutionary debunking arguments purport to show that if there were objective moral truths, then evolutionary evidence would suggest that our moral judgements are unjustified. This lack of justification is taken to exclude or make it unlikely that objective moral truths exist.

In this paper I explained how Joyce's evolutionary debunking argument is to be supported or undermined. Obviously, doing so requires certain kinds of scientific evidence, such as, perhaps, evidence about whether moral judgements are universal, develop in the face of impoverished stimuli, and appear to be designed. But we found that philosophical inquiry is crucial to assessing evolutionary debunking arguments as well. Not only can such inquiry establish whether a judgement's off-track origins defeat its justification; it is also inevitable to determining whether moral judgements are explained by natural selection and whether natural selection is off-track with regard to moral truth (most importantly, because testing these claims requires accounts of the meaning of moral judgements, adaptations, and moral facts).

In addition, it also turned out that evolutionary debunking arguments' philosophical and empirical aspects are closely intertwined. For example, one's conception of moral judgements significantly influences which kinds of empirical evidence can show these judgements to be adaptations; one's model of moral judgements' adaptive function significantly influences whether natural selection may be regarded as tracking moral truth; and so on. And in this paper I have not even begun to speak of recent attempts to illuminate traditional philosophical issue (including the meaning of moral judgements and the nature of epistemic justification) by means of surveys of ordinary people's intuitions — the so called “experimental philosophy” movement (e.g., Knobe and Nichols 2007).

Table 1 sums up some of the most important philosophical and scientific questions that need to be answered in assessing evolutionary debunking arguments' core sub-argument (in Joyce's version, and to a large extent with regard to other versions as well):

	<i>Primarily Philosophical Questions</i>	<i>Primarily Scientific Questions</i>
(P1-1) Moral judgements are adaptations.	<p>What is an adaptation (e.g., level of selection, conception of heritability, conception of biological fitness)?</p> <p>How plausible are empirical adaptationism and Evolutionary Psychology?</p> <p>What does it mean to make a moral judgement?</p> <p>In which sense (e.g., specificity, scope and level) must moral judgements be adaptations in order for an evolutionary debunking argument to work?</p>	<p>Which features of moral judgements can constitute evidence for their being adaptations (e.g., universality, development in the face of impoverished stimuli, appearances of design)?</p> <p>Do moral judgements exhibit features that can constitute evidence for adaptations?</p> <p>Is the fact that moral judgements exhibit/do not exhibit these features best explained by their being/not being adaptations?</p>
(P1-2) Natural selection is off-track with regard to moral truth.	<p>What is meant by a process of judgement formation being "off-track" (e.g., truth-insensitivity, explanatory irrelevance, unreliability)?</p> <p>What does it mean for a truth to be a moral truth? For example, are these truths causally efficacious and how are they related to emotions?</p>	<p>Did moral judgements evolve to promote a certain kind of fitness-increasing behavior or to enable grasping moral truths (given a certain understanding of this truth)?</p> <p>What are moral judgements' non-evolutionary proximate causes? Do these causes track the moral truth (given a certain understanding of this truth)?</p>
(P1-3) If a person's moral judgement is caused by a process that is off-track with regard to this judgement then the person's judgement is unjustified.	<p>Is there epistemic luck involved when off-track judgement formation processes lead to true judgements (see "third factor explanations")? If yes, which kind of luck?</p> <p>Does this kind of luck undermine the judgements' epistemic justification?</p> <p>Can moral judgements be justified by facts that are external to our minds?</p> <p>Can identity or supervenience claims about the goodness of evolutionary facts (mainly) be justified by non-moral capacities?</p>	

Table 1: Overview of some of the most important evidence that would have to be gathered to properly assess the core sub-argument of Joyce's evolutionary debunking argument. Note that the distinction between philosophical and scientific evidence is vague and non-exclusive (see fn. 3), and that many of

the above questions are closely intertwined. As a result, some questions may justifiably be regarded as belonging to the other category as well, and some questions are to some extent contingent on one's answer to others.

All of this suggests, in my view, that like with so many other issues, the study of evolutionary debunking arguments is most fruitfully regarded as a joint enterprise of both science and philosophy; and that close interdisciplinary collaboration is highly recommendable. For example, as suggested above, biologists working on the evolution of morality need to adopt plausible accounts of the meaning of moral judgements (which is best done in consultation with philosophers); and philosophers need to consider the empirical plausibility of adaptive models and proximate accounts of these judgements (which is best done in consultation with biologists).

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