

THE EVOLUTIONARY CHALLENGE OR: WHAT KIND OF ETHICS IS COMPATIBLE WITH THE NATURAL SCIENCES?

By Martin Ravneberg

This article deals with what significance our increasing knowledge of human evolution and evolutionary psychology should have for our conception of ethics. In this article I will argue that evolutionary descriptive explanations of the origin of our moral intuition pose a challenge to the justification of beliefs funded on these intuitions. I will give two arguments; the first argument claims that our intuitions are contingent on the historical development of the species and that they are therefore ethically arbitrary. The second argument claims that the theory of evolution leaves no room for belief in mind-independent moral truth. If true, this puts severe limitations on what kind of ethical arguments that can be given and what type of ethical theory that can be said to be in accord with the natural sciences.

Let us understand, once for all, that the ethical progress of society depends, not on imitation of the cosmic process, far less in running away from it, but in combating it.
T. H. Huxley (1896)

Our unease with evolution

Since Darwin's *On the Origin of Species* (1875/1859), it has been an open question how human morality and sociality fit into an evolutionary world view. The nature-versus-nurture debate has been raging for decades. Many people harbor an antipathy towards viewing human morality and sociality in terms of biology.

There is always the fear that seeing ourselves as just another animal will undermine some of our value, and values. What happens to the sanctity of human life when one sees that humans are just another animal? How can one justify Western culture's traditional prohibition against homosexuality when one learns that homosexuality is a natural trait that has coevolved in several different species? Ultimately, the fear is that if we truly understand how our moral capacity works, then this would ruin its normative force.

In the final chapter of *The Abolition of Man* (1943) C. S. Lewis gives expression to this fear. Here he describes what he sees as the ultimate consequences of this debunking, a distant future where a small group rules by a perfect understanding of psychology. Being able to see through any system of morality that might induce them to act in a certain way, they are ruled only by their own unreflective whims.

In several circles evolutionary theory is still regarded

with suspicion or rejected. All evolutionary explanations are seen as suspect in certain humanist and social science circles and a strong antipathy towards the theory of evolution can be found in several political and religious groups. It is perhaps not surprising that evolution is still seen this way, as evolution claims to explain why we humans are as we are. An understanding of what we humans are is fundamental to any world view, and in changing such a fundamental concept it necessarily transforms all concepts based on or related to it. The theory of evolution has probably changed our world view more than any other single theory. Daniel Dennett likened the idea of evolution to an acid and claimed that

[Evolution] eats through just about every traditional concept, and leaves in its wake a revolutionized world-view, with most of the old landmarks still recognizable, but transformed in fundamental ways. (Dennett 1996:63)

The theory of evolution claims that there exists a biological mechanism of random variation and a historical process of natural selection, and that this can be understood as a substrate-neutral algorithm "that operates at every level of organization from the macromolecular to the mental, at every time scale from the geological epoch to the nanosecond" (Sommers 2003:1). This theory seems to undermine all preexisting world views and to a great extent the possibility for wishful thinking about what we are and how the world works.

Few people are uncomfortable discussing physiological traits of humans, such as the eye, in the light of evolution,

and

In such cases evolutionary accounts of origin may provide much of what Greek thinkers sought in an *arche*, or origin – a unified understanding of something’s original formation, source of continuing existence and underlying principle. (Katz 2002:1)

What it does not do is normatively justify the eye or ascribe to it any existential meaning. Explaining physiological traits seems to be unproblematic. But when it comes to mental and social traits a lot of people get uncomfortable. This is probably because physiological traits are not seen as requiring a normative justification or any existential meaning, while psychosocial traits often are. Few people crave a story that normatively justifies or gives some existential meaning to our prehensile thumb. Human pair-bonding, on the other hand, is a trait I suspect a lot of people feel differently about. Evolution should in principle be equally able to explain the origin of physiological and psychosocial traits. In this, it offers the possibility for the understanding of the *arche* of human morality, but it gives to it no normative justification and attributes to it no existential meaning. The fear is that evolution can explain both the capacities and performance of human morality in such a way as to dispense with any justification or meaning whatsoever. This may even be the case with our moral intuitions. By moral intuitions I mean:

Affective patterns and/or evaluative tendencies that shape behavior, related to helping or harming and/or the forming of appropriate social relations.¹

It is worth noticing that this definition of moral intuitions thus does not render moral intuitions exclusive to humans. In this it follows the thinking of researchers like Sober and de Wall (See Sober 2000 and de Wall 2000).² The underlying commitment that supports this view is a commitment to evolutionary parsimony: It posits that if closely related species act the same, then the underlying mental processes are probably the same too. The alternative would be to assume the evolution of divergent processes that produce similar behavior, which seems a wildly uneconomic assumption for organisms with only a few million years of separate evolution.

If our moral intuitions and social behavior are contingent on the historical development of our species, then they could have been different, if our historical development had been different. The randomness that lies behind us having just the moral intuitions we have is striking. If

one thinks that there is such a thing as moral truths and that what is not morally true is in some sense morally false, then the chanciness of our predicament is thought-provoking, because it can seem to be, at best, a matter of luck that *our* moral intuitions are true, rather than the thousands of different moral intuitions found in other species. And, it is not obvious how they happen to be normatively justified. This doubt was articulated already by Charles Darwin:

But then with me the horrid doubt always arises whether the convictions of man’s mind, which has been developed from the mind of the lower animals, are of any value or at all trustworthy. Would anyone trust in the convictions of a monkey’s mind? (Darwin 1881)

What is a justification?

Before going on to argue that evolutionary descriptive explanations of our beliefs pose a challenge to the justification of set beliefs, some preliminary notes on what justification is are necessary. This is not as easy as it may sound, because beyond a few truisms and platitudes there is a bewildering degree of disagreement on the subject.

There are many things that are commonly spoken of as being justified or unjustified: revenge, emotions, laws, etc. The kind of justification that is required for beliefs is termed epistemological justification. It is commonly believed that a belief can be justified but false, or unjustified but true. Epistemological justification is relative. For example:

One person’s belief that *p* may be justified while another person’s belief that *p* is not justified. A person’s belief that *p* may be unjustified at time *t* but later gain justification; or justified at time *t* but later lose justification. (Joyce 2013:4)

This is about all that is generally agreed upon among philosophers.

I will argue that the evolutionary description of the causal origin of our beliefs pose a challenge to the justification of set beliefs. To make such an argument one must ask: What is the relevance of causal information in assessing the epistemic justification of X’s belief that *p*? In what circumstances, and under what conditions, does the origin of a belief cast serious doubt on that belief? I hold that for a belief to be justified it must be formed by a condition that is truth sensitive:

Lack of truth sensitivity: A belief formed by a causal process that one has no reason to think has any connection to the fact of the matter is unjustified.

If one was to form one's belief about the coming development of stock market prices by consulting the entrails of a goat, then one's belief about the coming development of stock market prices would be unjustified, because there is no good reason to believe that goat entrails and the coming development of stock market prices are connected.

Can we trust the intuition of a monkey's mind?

Anyone who has ever studied philosophy will recognize dialogs such as this:

Philosopher A: based on the previous analysis, I propose the following moral principle P: Actions of the type X are permissible if and only if conditions x, y and z are met.

Philosopher B: While your analysis seems sound, P must be rejected because here is a counter-example in the form of a case where conditions x, y and z are met, but because conditions f, g and h also obtain, we have the intuition that actions of type X are impermissible. (Elster 2011:241)

It is worthwhile to dwell on just how queer this type of inquiry really is. When philosophers ask questions such as "what is the morally right thing to do in scenario X" they in some sense assume that they already have the answer, in so far as finding the answer is seen as a matter of getting clear on the moral intuitions they already have latent within themselves. Moral intuitions are generally taken as a confirmation or disconfirmation of whether the principle at hand is right or wrong in this particular situation. What seems paradoxical with this way of going about asking and answering the question is that the question is raised based on an assumption of ignorance, but at the same time, the usual way of answering presupposes that the answer is self-evident. Whenever the principle in the given scenario comes in conflict with our moral intuition, it is usually understood as undermining the principle, not our moral intuition. It is customary to argue that these intuitions make it possible for us to test the validity of a given moral principle. If a given principle P claims that a behavior X is correct whenever factors a, b and c are present, and one can find a hypothetical scenario where a, b, and c are present but where X is intuitively incorrect, it is seen as an argument against the given principle P. But, it is not obvious that we should understand the conflict between the moral analyses and the moral intuition as undermining the analyses and not the intuition. This way of arguing for or against a principle assumes that moral intuitions provide adequate justification for moral beliefs.

Imagine a moral principle X that claims:

Principle X: Sexual intercourse between two consenting adults, who both enjoy the experience, that doesn't hurt anyone else is good.

Most liberal-minded people would probably be willing to accept this principle, and within a utilitarian paradigm it would obviously be correct. Psychologist Jonathan Haidt suggests we reflect over the following scenario:

Julie and Mark are brother and sister. They are traveling together in France on summer vacation from college. One night they are staying alone in a cabin near the beach. They decide that it would be interesting and fun if they tried making love. At very least it would be a new experience for each of them. Julie was already taking birth control pills, but Mark uses a condom too, just to be safe. They both enjoy making love, but they decide not to do it again. They keep that night as a special secret, which makes them feel even closer to each other. (Haidt 2001:1)

This scenario is objectionable to most people, even though many of those who see it as intuitively wrong would accept principle X.

We can be pretty sure that selection pressures have been central in shaping the content of human moral intuitions. If a trait is present in a phenotype then this is because it increases fitness, or it is a spandrel, a byproduct of selection for some other trait (Gould and Lewontin 1979). It seems highly implausible that a significant amount of our moral intuitions are spandrels given the enormous potential fitness benefit in making certain evaluative judgments rather than others. In addition several of our core moral intuitions are found in a number of other species, something that makes it even more unlikely that these are spandrels.

An aversion to incest, for example, is found in a great number of species. That some of our most basic moral intuitions are not exclusive to our species suggests that these are very old. Those evaluative tendencies that we share with other primates presumably arose and became entrenched in our ancestors before the development of language³: something that, from an evolutionary perspective, is a rather recent phenomenon. We humans have both these moral intuitions that motivate certain behavioral responses to certain circumstances, and a cognitive reflective capacity. Our cognitive reflective capacity allows us to see one thing as counting in favor of another, to make moral principles and to step back from them and call them into question. From an evolutionary viewpoint the intuitive wrongness of incest is easily understandable given that children of siblings have a lower survival rate. So attraction between

siblings is selected against. The mechanism through which evolution seems to hinder sex between siblings is by the creation of an affective pattern of antipathy towards it – that is, by making it feel disgusting and wrong.⁴

I mean to question whether the mere fact that most of us find some action intuitively wrong necessarily gives justification for the belief that it is so. We know what conditions formed moral intuition. In the Mark and Julie scenario we know that these conditions are no longer active, since it is near impossible that the intercourse results in a child. Is an intuition in itself an adequate justification for a belief?

Let us consider the case of unrealistically positive self-evaluations. There are good scientific reasons to believe that humans have been hard-wired by natural selection to systematically make unrealistically positive self-evaluations (Hippel and Trivers 2011). Most people believe themselves to be better than average in most domains. This includes supposing themselves to have an above average ability to resist the temptation to make unrealistic positive self-evaluations (Hippel and Trivers 2011).

It might be that this type of delusion enhances the fitness of the individual that has it. In the context of evolutionary discussion, it is sometimes useful to speak of traits whose function it is to track the truth (Joyce 2013). Traits that track the truth are traits that to a certain extent correspond with facts. The concept is first and foremost intended to apply to representational states. For example, the visual system may produce a representation of a tree that is right in front of one. This normally corresponds to the fact of there being a tree there. We know this to be

the case because if we don't pay heed to the representation we normally crash into it. The ability to avoid crashing into things certainly enhanced our ancestor's relative fitness and this thus explains the emergence and persistence of the trait.

It has been speculated that unrealistically positive self-evaluations increase fitness by contributing to beneficial self-representations in conflict situations (Hippel and Trivers 2011). All that is needed for an intuitive evaluation to be selected for is that it bestows a significant fitness advantage. The faculty that produces this intuitive evaluation doesn't have the function of tracking the truth. The evaluative tendency was not formed to produce accurate self-appraisals, but to produce fitness beneficial self-appraisals. The intuition that tells us that we are better than average is not a proper justification for the belief that we are, as we know that this intuition is not truth sensitive. Self-evaluations that are made intuitively, and without serious reflection, lack epistemic justification

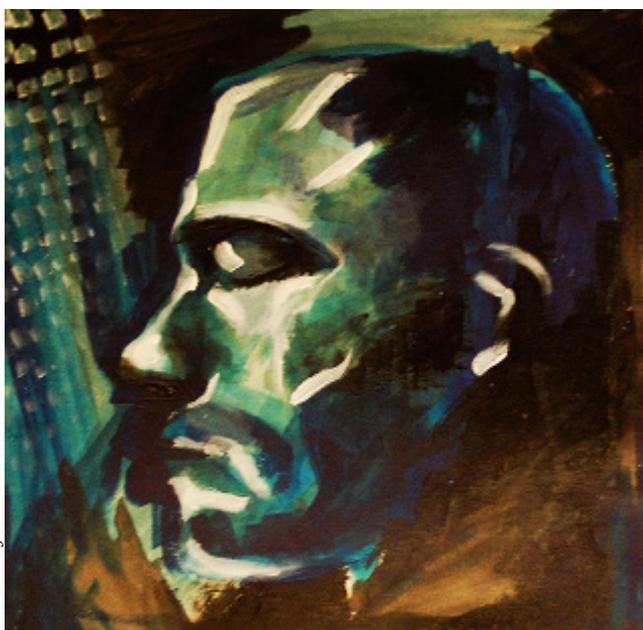
If our moral intuitions about the brother-sister incest example given by Jonathan Haidt cannot be shown to differ in some significant way from the self-appraisal intuition, then it can provide no justification for a belief. Most people's response to Jonathan Haidt's scenario may, like most self-evaluations, lack epistemic justification, for the same reason.

There is a difference between a belief being unjustified and a belief being unjustifiable. There are ways to justify one's belief in being above average, and there may be good justifications for condemning Julie and Mark, but one's moral intuition is not one of them.

The neurology behind not killing the fat man

Imagine two variations of the so called "trolley problem." In scenario one you see a trolley running towards five workmen without any chance of escaping. It is, however, possible for you to pull a handle that would shift the trolley to another line, where there is only one single worker that would be killed. If you do nothing, five workers are killed; if you pull the handle, one worker is killed. Most people are willing to claim that it is correct to pull the handle and kill one person, saving the other five. Now, imagine another scenario where a trolley is heading towards five workers without any possibility to escape. From where you stand, you could push a fat man in front of the trolley and thereby stopping it. Most people do not find it morally acceptable to do so in order to save the five workers (Greene 2013:114). The consequences in these two scenarios are the same, but our moral intuitions dif-

Illustration: Martina Merellová



fer. In the article “Pushing moral buttons: the interaction between personal force and intention in moral judgment,” moral psychologist Joshua D. Greene tests a set of variations of the “trolley problem,” trying to identify what it is that provokes the intuitive moral difference.⁵ Greene concludes that “harmful actions were judged to be less morally acceptable when the agent applied personal force” (Greene 2009). “Personal force” is defined as any direct effect generated by the other person’s muscles. Joshua D. Greene suggests the hypothesis that moral dilemmas, as the two trolley scenarios, cause different emotional responses and that this affects people’s moral choices. In “An fMRI investigation of emotional engagement in moral judgment” Greene and his colleagues claim to have identified significant differences in brain activity when solving moral problems involving personal force and those that do not.

Anova identified all brain areas differing in activity among the moral-personal, moral-impersonal and non-moral conditions. Planned comparisons on these areas revealed that medial portions of Brodmann’s areas (BA) 9 and 10 (medial frontal gyrus), BA 31 (posterior cingulate gyrus), and BA 39 (angular gyrus, bilateral) were significantly more active in the moral-personal condition than in the moral-impersonal and the non-moral conditions. Recent functional imaging studies have associated each of these areas with emotion. (Greene 2001:2107)

Out of these findings Greene developed a dual-processing theory that aims to explain why we intuitively find a significant moral difference in scenarios like the first and second trolley problem.⁶ Greene speculates that the difference in the intuitive responses to the different scenarios is a product of evolved adaptation for social living. It has been speculated that in humans there has been selection for an antipathy against killing another human being who is not regarded as an enemy or a threat with physical force. On the other hand, it is unlikely that there has been selected for an antipathy towards pulling switches. A scientific explanation of this kind does raise questions about the normative validity of the moral intuition, since it seems to be a rather arbitrary distinction.

The normative value of our moral intuitions is not self-evident. We can therefore not without further argument take a conflict between a moral principle and a moral intuition, as an argument against the principle. As our descriptive understanding of what morality is grows, as we “see through” more and more of the system of morality that might induce us to act in a certain way, it gets harder to see why we ought to act as these systems dictate. As

the knowledge of what morality is grows, it seems to leave little room for claims that we ought to act in accordance with our moral intuitions. In this sense our predicament resembles that of the rulers in C.S. Lewis’s *The Abolition of Man*.

Some readers may still have a positive inclination towards the intuitive discrimination that most people make between the two trolley scenarios. This may be because of legitimate philosophical disagreement: The reader may, for example, be a Kantian deontologist and hold the view that no human should be used as a means to an end, or it may come from the fact that she just automatically believes it to be right. I think we should also entertain the suspicion that some may be inclined to hold such philosophical views because of our intuitive moral evaluative tendency.

The moral significance of family and fatherland

Let us consider the case of in-group–out-group bias. There is a certain similarity between the case of in-group–out-group bias and dual-processing: In both cases, the general pattern of discriminatory judgments can be explained by our neurological makeup. We humans are social animals, and we live in groups. There is evidence that humans have an innate tendency to favor their own group over others. The early twentieth-century sociologist William Sumner claimed that.

Each group nourishes its own pride and vanity, boasts itself superior, exists in its own divinities, and looks with contempt on outsiders. (Hogg and Cooper 2007:334)

This may be a bit harsh, but there is evidence that positive in-group descriptions and negative out-group descriptions are abstract and vague, while negative in-group descriptions and positive out-group descriptions are specific and observable. If a person from one’s own group is known to be rude, this trait is easily attributed to the individual, as the belief that this person is rude. If someone from an out-group is known to be rude, this trait is easily attributed to the group as a whole, as the belief that those people are rude. The reverse is the case for positive beliefs. The problem is that general statements are vague and harder to prove wrong, while, concrete statements are specific and easy to brush off as exceptions to the rule, thereby strengthening stereotypes (Kubota, Mahzarin, Banaji and Phelps 2012). This tendency seems to be hard to avoid. “Even when deliberately resisting out-group negativity in attitude formation and transfer, people appear unable to avoid it implicitly” (Stark, Flache and Veenstra 2013:608).

The most disturbing findings are probably those made by Elizabeth A. Phelps, who has been working on the neurology behind group bias. She has pioneered work on the topic, and there are now a number of studies that have found greater amygdala blood activity in response to ethnic out-group faces than to in-group faces. The amygdala is comprised by a group of nuclei that are central in the acquisition and expression of classical fear conditioning. When flashing pictures of faces belonging to different ethnic groups before an individual, one can observe a general tendency for differentiated neuronal activation patterns in response to in-group faces and out-group faces. The flashing of the faces is done at a high speed and the reaction time is so fast that it indicates that the differentiation is unconscious, and involves no conscious thought (Kubota, Mahzarin, Banaji and Phelps 2012).

It is not hard to come up with a possible evolutionary explanation for this phenomenon. Individuals that had an in-group-out-group bias may have had several advantages over individuals that did not. Yet most of us living in liberal and multicultural societies find this evaluative tendency problematic. Few of us would, hopefully, accept the fact of the innate tendency towards hypocrisy as a good argument for it being morally justified.⁷ What the case of in-group-out-group bias makes clear is that the fact that we have an intuitive tendency to make a judgment is not a justification for that judgment, neither in the case of in-group-out-group bias nor in the two trolley scenarios.

We have come to a cultural understanding that sees this type of group bias as problematic. Few take the fact of this evaluative tendency to make these hypocritical evaluations as a justification for those evaluations. But, when it comes to smaller groups like the family, we generally seem untroubled by the move. We seem to have a predisposition towards intuitively thinking that one is more blameworthy for not taking care of one's own children than failing to take care of other people's children that needs to be taken care of, but is this morally justifiable? Most parents strongly react to any injury or injustice committed against their own children. Injury or injustice committed against one's children often elicits a strong emotional response. The emotional response calls the parent to action and to the aid of their child. These same people might step past starving street children and, although the experience may provoke some discomfort, in only a few cases does it drive people to action. This evaluative tendency is easy to understand, both emotio-

nally and evolutionary: Parents who discriminate in the care they give to the plight of their children and the plight of others will have a fitness advantage over those who do not. Therefore, discriminatory care behavior would invade any population. Evolution often favors the selfish, because those who care more about their own children will on average have more children that live until reproductive age than those who do not. This way evolution ensures that we care more about our own children's pain than that of others. Because of this, we are likely to think we have good reasons to care more about our own children than others. The reason for the existence of the intuitive moral difference between providing care to one's own children and those of others is likely based in the fitness advantage it provided our ancestors. If we are to evaluate the normative standing of the intuitive moral difference we must ask: What is the normative significance of our ancestors' fitness advantage? There may, theoretically, be good moral reasons for caring more about one's own children, but one's moral intuitions is not one of them.

Is there real moral truth out there somewhere?

I have argued, hopefully somewhat convincingly, that human nature and our intuitive evaluation provide no justification for our moral beliefs.

In the article "A Darwinian dilemma for realist theories of value" Sharon Street claims that taking evolutionary science seriously should undermine any belief in objective or realist moral values. By the idea of realist moral values is meant the view that "there are evaluative facts or truths that hold independently of all our evaluative attitudes" (Street 2006:3).

Moral realists believe that there exist independent entities such as moral truths. They hold the view that moral truths such as ϕ (e.g. "Thou shalt not kill") function as normative justifications for ψ (e.g. not killing), that ϕ is right and that one ought to conform to ϕ . But, from what are realist moral values independent? "A canonical answer is that moral realism recognizes specifically the mind-independence of moral values" (DeLapp 2013:12).

There are two main types of moral realism: naturalist moral realism, which sees evaluative truths as reducible, or supervening on, natural properties or facts; and non-naturalist moral realism, which claims that moral truth are constituted by certain non-natural properties or facts – that is, properties or facts that are in some way significantly different from the properties and facts dealt with in the sciences. Both views are targets for the argument put forward by Sharon Street.

It seems unlikely that the evolutionary process has not been central in shaping the content of human moral intuitions because there are enormous potential fitness benefits in making certain evaluative judgments rather than others. Consider, for example, some of the moral intuitions discussed in this paper.

-Most people take the fact that someone is part of their close family as a reason to see them as unfit to be sexual partners.

-Most people believe they have a greater obligation to help their own children than they do to help the children of complete strangers.

There are an endless number of possible judgments we could have made, so why do we make just these? Why do we not view close family as the most attractive sexual partners? Why are we not blind to our own children's misfortune while we rush to alleviate the suffering of other people's children in faraway places? Imagine a type of humans who had the inverse evaluative tendencies:

-Most take the fact that someone is part of their close family as a reason to see them as a preferable sexual partner.

-Most believe they have a greater obligation to help other people's children than they do to help their own children.

Were this type of humans ever to exist, they would have had a short history indeed. The first set of intuitions is found in all human cultures, and they probably aren't exclusive to humans. They are found in other primates, and perhaps in a range of other animals. Mammals in general, and primates especially, exhibit similar parental care and incest aversion behavior. The most evolutionary parsimonious conclusion is that these behaviors are, at least in primates, driven by a similar mechanism to that found in humans.

If one did not know of evolution, the fact that most people hold the first set of beliefs and not the second could have been seen as an indication of the existence of independent moral truth. In previous times, the very consistency of moral beliefs was taken as an argument for the existence of moral truth. But the (hopefully uncontroversial) premise of this paper is that modern humans were formed by a biological mechanism of random variation and a historical process of natural selection, known as evolution. Evolution can explain why we have the first and not the second set of evaluative tendencies. For those

individuals that throughout evolutionary history have had evaluative predispositions detrimental to their fitness have been out-competed, while the genes of those individuals that throughout evolutionary history have had evaluative predispositions beneficial to their fitness have been spread. This process has selected for evaluative responses to situations that are beneficial for one's fitness. Street calls the view that these moral intuitions have been selected for because they got our ancestors to respond to their circumstances with behavior that itself promoted reproductive success in fairly obvious ways the adaptive link hypothesis (Street 2006).

The challenge to any believer in independent moral truths is to explain the relation between evolutionary influences on our evaluative tendencies on the one hand, and these independent moral truths on the other. One could, of course, claim that there is no relation; no connection between the evolutionary influences that have shaped our evaluative attitudes and independent moral truths. But, this must lead to the skeptical conclusion that most of our evaluative judgments are hopelessly distorted due to selection pressures, and one would still have to provide an argument for the existence of moral truths. As Sharon Street points out:

By understanding evaluative truth as ultimately prior to our evaluative judgments, realism about value puts itself in the awkward position of having to view every causal influence on our evaluative judgments as either a tracking cause or a distorting cause. (Street 2006:155)

It seems that the only consistent way to believe in both evolution and in such entities as moral truths and not come to this skeptical conclusion is to claim that evolution in some way tracks these moral truths. Let us call this idea the truth-tracking hypothesis. This can, of course, be the case, but to claim so is to make a scientific claim – and as a scientific claim, it is subject to the same criteria as all other scientific claims. Comparing competing scientific hypothesis minimally includes comparing the theories' explanatory and predictive power, their parsimony and how well they integrate with the rest of the sciences.

Let us compare the truth tracking hypothesis with the *adaptive link hypothesis*.

The adaptive link hypothesis makes an informative claim by pointing out that our evaluative tendencies are going to be shaped so as to generally conform to that which increases fitness. From this hypothesis, we can make predictions as to a species' evaluative tendencies. It is parsimonious and integrates seamlessly with the rest of biology,

being as it is a prediction that follows from standard evolutionary theory.

The truth tracking hypothesis, on the other hand, claims nothing informative. Stating that our evaluative tendencies generally conform to moral truth raises more questions than it answers. Why did making true judgements increase reproductive success, it is not adequate to just say, “because the judgments are true.” This loss of explanatory power is gained at the expense of simplicity, positing more entities than the adaptive link hypothesis. In addition the theory does not sit well with the rest of biology, relying as it does on strange entities known as moral facts, unheard of in the rest of the sciences. As a scientific hypothesis the *truth tracking hypothesis* does not fare well, and it has never seriously been proposed as a scientific hypothesis.

Answer to objections

The kind of evolutionary debunking arguments put forth in this text try to undermine the validity of a belief by pointing to the origin of the belief. In this section I will try to answer some of the objections most relevant to the kind of evolutionary debunking arguments put forth in this text.

Roger White claims in an article arguing against various skeptical arguments that:

Of course explaining a belief poses no threat to the belief as such ... the truth of an explanation of my belief that p that makes no reference to whether p doesn't by itself pose any threat to the justification of my belief. (White 2010:582)

I think this is a too general statement. Could one really believe the narrative given in Nietzsche's *On the Genealogy of Morals* (1887) and still be a devout Christian? It seems that at least in certain occasions the explanations of belief-formation poses serious threat to the justification of a belief. Take, for example, the real-life experience of an acquaintance of mine. He was often convinced that the people sitting behind him on the tram were talking about him. He was diagnosed with paranoid schizophrenia. It was explained to him that due to his condition he was likely to believe this whether it was true or not. With time that explanation of his belief, on good days at least, undermined the belief that people were talking about him, even though the explanation made no specific reference to whether his belief was unjustified on

any single occasion. People might well have been talking about him, but the explanation of his belief-forming had undermined his capacity to judge any single occurrence of the belief, leading him to a skeptical attitude about whether or not people were talking about him. I find this

analogous to the sort of evolutionary debunking I am putting forth. This type of debunking argument shows that our moral intuitions are not truth sensitive, and this undermines our capacity to make certain types of

inferences. My acquaintance learned that he couldn't trust his senses in particular situations because he occasionally suffered from auditory hallucinations and his experience was not truth sensitive. This still left many ways for him to find out if people were talking about him. He could, for example, ask to get his experiences confirmed or disconfirmed by someone else. Analogously, we have no reason to think that our moral intuitions are truth sensitive, and we, like he, should be led to a skeptical attitude towards our ability to make a certain type of inference, namely ethical inferences from moral intuition. We, as well as he, are still left with other ways of finding justifications for our beliefs. The explanation of belief-formation should cast doubt on the content of a belief in certain circumstances, and it often does. Although correlation does not prove causation, I think it an unlikely coincidence that psychiatrists have been found to be the least religious of all medical professionals, as knowing something about belief formation certainly can undermine some types of beliefs (University of Chicago Medical Center 2013).

In the article “Evolutionary Debunking Arguments” Guy Kahane argues that the debunking arguments of the type put forth by Joshua Greene only are valid if one presupposes some kind of objectivism. If true, this would mean that this article was redundant, as it first put forth a debunking argument like that of Joshua Green and then an evolutionary debunking argument inspired by Sharon Street that specifically argues against moral objectivism. But I think that Guy Kahane is confused on this point. What debunking arguments of the kind Green articulates actually debunk is any appeal to intuitions as a moral justification. If valid, the argument is valid regardless of one's objectivist or constructivist beliefs. Kahane writes:

If there is no attitude-independent truth for our attitudes to track, how could it make sense to worry whether these attitudes have their distal origins in a truth-tracking process? (Kahane 2011:112)

If valid, the argument is valid regardless of one's objectivist or constructivist beliefs. bekreftet.

I think the best answer to this is the one given by Richard Joyce in *Evolution, Truth-Tracking, and Moral Skepticism* (forthcoming). He asks us to consider the case of money. We, hopefully, all agree on the constructivist status of monetary value. A given piece of paper is worth \$5 because and only because one knows that we all collectively treat it as being worth \$5. The value of money is not a mind-independent matter. Consider the case of Fred. Fred is a newcomer to our country and he is “unsure about the respective values of the various pieces of metal and paper that we use as money; but he is also an idiot, and decides to form his beliefs on the matter on the basis of consulting tea leaves” (Joyce 2012:7). Even if he by the method of tasseography accidentally manages to form a correct belief, the belief would not be justified. One could apply a debunking argument to Fred’s belief analogues to the one given by Green. One could undermine the belief by pointing out that the process of belief formation is not tracking the truth. Contrary to what Kahane claims, subjectivist and constructivist meta-ethical views may also be subject to evolutionary debunking arguments, because at least some subjectivist and constructivist accounts of moral beliefs take the beliefs to track the truth. Thus, beliefs about such truths can be produced by processes that fail to track them

In the article “You just believe that because...” Roger White comes up with a thought experiment that tries to show that the selection for a belief cannot undermine a belief. He calls the thought experiment “Adams party”.

Adams party: Adam throws a party and we’re all invited. As we arrive Adam asks each of us whether p. You answer that p and go in to enjoy the party. We discover later the he had a gun in his pocket and was prepared to shoot anyone who didn’t believe that p. (White 2010:586)

Roger White claims that this particularly absurd selection for a belief explains why there are only p believers at the party, but that it does not explain the fact that you had the belief in the first place, so he thinks that the thought that “I really only believe p because selective pressures are at work” is misguided. This objection has an air of trickery about it. The problem with this objection is that it is far from analogous with the case of evolutionary selection for moral intuitions or “beliefs.” This is the problem generally with such objections by analogy: They often exclude central features of what they claim to be analogous to. In the case of the party, it is assumed that people already hold the belief that p or $\neg p$ because

of independent reasons. Since the central moral intuitions and “beliefs” that we are discussing are found in other primates, it is implausible that they are held on the basis of independent reasons because a prerequisite for holding independent reasons is a language capacity not found in other primates. What is selected for is a set of behavioral responses probably constituted by an intuitive affective system (de Waal 2006:6). These moral intuitions are formed to a large extent by an evolutionary selection process that is not truth sensitive. In the case of Adam’s party nothing is said about the belief formation process of the p believers. The problematic kinds of causal influence on belief formation are the ones that operate independently of the truth or fact of the matter. The problematic fact revealed to us through the development of the evolutionary science is that our moral intuitions are insensitive to anything like moral truths.

Summary and conclusion

I, as Sharon Street, think that had the content of our basic evaluative tendencies been very different, then the general content of our full-fledged evaluative judgments would also have been very different, and in loosely corresponding ways (Street 2006:120). This is not to claim that our reasoning about morals purely consists of rationalizing our moral intuitions. If I believed our moral judgments to be completely unaffected by reason then I wouldn’t write papers on ethics.

Although exaggerated, there may be something to the fear expressed in *The Abolition of Man* by C. S. Lewis, because the development of descriptive explanations from the evolutionary and neuro-scientific disciplines of our moral intuition seems to cast doubt on them as justifications for moral beliefs. What the development of descriptive explanation of our moral intuitions does is to undermine their presumed self-evidence. We cannot appeal to our intuitive sense of right or wrong as justification for our moral beliefs without further ado. Nor can we appeal to mysterious entities such as independent moral truths. This poses serious limitations on what a moral argument can look like and to the kind of ethics one can formulate. It raises the suspicion that most of our moral beliefs are lacking in justification. But it does not make all articulations of ethics impossible. Many philosophers, and most people in general, do not attempt to positively justify their considerations on morality, but nevertheless proclaim justification for their moral beliefs from intuition. It is to this laziness and conservatism that I believe the type of considerations given in this paper does most damage.).

LITERATURE

- Darwin, C. 2008, *On the Origin of Species*, Oxford University Press.
- Darwin, C. 1881 "letter from Darwin, C. R. to Graham, W. 3 July 1881" *Darwin Correspondence Project*, Available from: <<https://www.darwinproject.ac.uk/letter/entry-13230>> [September 22, 2013]
- Dennett, D. 1996, *Darwin's dangerous idea: evolution and the meanings of life*, Touchstone.
- De Waal, F. 2006. *Primates and philosophers how morality evolved*, Princeton university press.
- De Waal, F. and Flack, J. C. 2000, 'Any animal whatever' Darwinian Building blocks of Morality in Monkeys and apes. *Journal of Consciousness Studies*, 7:1–2, 1–29
- DeLapp, K. 2013, *Moral Realism*, Bloomsbury.
- Elster, J. 2011, "How outlandish can imaginary cases be?" *Journal of applied philosophy*, 28:3, 241–258
- Greene, J. D. 2009, Fiery A. Cushman, Lisa E. Stewart, Kelly Lowenberg, Leigh E. Nystrom, Jonathan D. Cohen, "Pushing moral buttons: the interaction between personal force and intention in moral judgment", *Cognition International Journal of Cognitive Science*. Available from: <<http://www.wjh.harvard.edu/~jgreene/GreeneWJH/Greene-MoralButtons-Cogn09.pdf>> [September 24, 2013]
- Greene, J. D. 2001, "An fMRI investigation of emotional engagement in moral judgment", *Science*, 293:5537, 2105–2108.
- Greene, J. D. 2009, "Dual-process morality and the personal/impersonal distinction: A reply to McGuire, Langdon, Coltheart, and Mackenzie", *Journal of Experimental Social Psychology*, 45:3, 581–584.
- Greene, J. D. 2013, *Moral Tribes*, Penguin Press.
- Gould, S. J. and Lewontin, R. C. 1979, "The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Programme", *Proc. Roy. Soc. London B*, 205:1161, 581–598.
- Haidt, J. 2001, "The emotional dog and its rational tail: A social intuitionist approach to moral judgment", *Psychological Review*, 108:4, 814–834
- von Hippel, W. and Trivers, R. 2011 "The evolution and psychology of self-deception" *Behavioral and brain sciences*, 34:1, 1–16
- Hogg, M. A. and Cooper, J. 2007, *The Sage handbook of social psychology*, Sage publication
- Huxley, T. H. (1896). *Evolution and Ethics*, Prometheus Books
- Joyce, R. 2012, "Evolution, truth-tracking, and moral skepticism" Available from: <http://personal.victoria.ac.nz/richard_joyce/acrobat/joyce_2015_evolution.truthtracking.moral.skepticism.pdf> [September 24, 2013]
- Katz, L. D. 2002, *Evolutionary Origins of Morality cross-disciplinary perspectives*, Imprint academic.
- Kahane, G. 2011, "Evolutionary Debunking Arguments", *NOUS*. 45:1, 103–125.
- Kubota, J. T., Mahzarin R. B., Elizabeth A. P., (2012) "The neuroscience of race" *Nature Neuroscience* 15:10, 940–948
- Lewis, C. S. 1947, *The Abolition of Man*, or, *Reflections on Education with Special Reference to the Teaching of English in the Upper Forms of Schools*, Harper, San Francisco.
- Nietzsche, F. W. 1996, *On the Genealogy of Morals: A Polemic: By Way of Clarification and Supplement to My Last Book, Beyond Good and Evil*, Oxford, Oxford University Press.
- Sommers, T. and Rosenberg A. 2003 "Darwin's Nihilistic Idea: Evolution and the Meaninglessness of Life" *Biology and Philosophy*, 18:5, 653–668.
- Sober, E. and Wilson, D. S. 2000, *Summary of unto others: the evolution and Psychology of Unselfish behavior*. *Journal of Consciousness Studies*, 7:1–2, 185–206
- Sober, E. (1990). "Explanation in Biology: Let's Razor Ockham's Razor." *Royal Institute of Philosophy Supplement* 27, 73–93.
- Stark, T., Flache, A. H. and Veenstra, R. 2013 "Generalization of Positive and Negative Attitudes Toward Individuals to Outgroup Attitudes" *Personality and Social Psychology Bulletin*, 39:5, 608–22
- Street, S. 2006, "A Darwinian dilemma for realist theories of value" *Philosophical Studies*. 127:1,109–166.
- University of Chicago Medical Center, (2007) "Psychiatrists Are the Least Religious of All Physicians". *Science Daily*. Available from: <<http://www.sciencedaily.com/releases/2007/09/070903094243.htm>> [December 3, 2013]
- White, R. 2010, "You just believe that because..." *Philosophical Perspectives* 24:1, 573–615.
- Wolf, A. and Durham, W. 2005, *Inbreeding, Incest, and the Incest Taboo: The State of Knowledge at the Turn of the Century*, Stanford University Press, Stanford.

NOTES

¹By evaluative tendencies I mean tendencies such as unreflective desiring, approving or disapproving and spontaneously and unreflectively seeing something as calling or counting for something or demanding something.

²For a discussion of the application of human mental concepts to other animals, see Sober (1990).

³For an argument to this affect, see Flack and de Waal (2000).

⁴For an overview of our current understanding of the development of incest taboo and the Westermarck effect, see Wolf (2006).

⁵The test consists simply in gathering responses from participants to illustrations and accompanying explanations of several different trolley scenarios.

⁶In psychology, a dual process theory provides an account of how a phenomenon can occur in two different ways, or as a result of two different processes.

⁷Hypocrisy is here meant in the Biblical sense, as having one set of rules for oneself and another set of rules for others. "For with the judgment you pronounce you will be judged, and with the measure you use it will be measured to you" (Matthew 7:1–5).