

Evolutionary Biology, Moral Intuitions and the Is-Ought Problem

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Abstract

In this paper, I argue that deriving normative conclusions from moral intuitions commits Hume's is-ought fallacy. First, I argue that moral intuitions evolved to maximise reproductive success and not to track moral truth. I use this to support the claim that moral intuitions are better seen as biochemical states of affairs, rather than indicators of moral truth. Second, I argue that this provides reason to think that deriving normative conclusions from moral intuitions commits Hume's is-ought fallacy. I defend this against two objections: (1) that the argument commits the genetic fallacy, and (2) that the argument pre-supposes meta-ethical objectivism.

I argue that deriving normative conclusions from moral intuitions commits Hume's is-ought fallacy. First, I outline a biological account of moral intuitions. I then argue that moral intuitions, as characterised, evolved to maximise reproductive success and *not* to track moral truth. Second, I argue that these considerations support the claim that moral intuitions are biochemical

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states of affairs and *not* indicators of moral truth. Third, I argue that this provides reason to think that deriving normative conclusions from moral intuitions commits Hume's is-ought fallacy. Fourth, I defend this against (1) the objection that the argument commits the genetic fallacy, and (2) the objection that the argument pre-supposes meta-ethical objectivism.

First, I outline a biological account of moral intuitions. McMahan characterises moral intuitions as "a moral judgement [...] that is not the result of inferential reasoning."¹ I want to expand this definition, such that moral intuitions refer to the 'quick-fire' moral judgements that correlate with increased activity in 'affective' or 'emotion-driven' parts of the brain such as the ventromedial pre-frontal cortex.² I argue that deriving normative conclusions from moral intuitions, as characterised, commits Hume's is-ought fallacy.

There is a strong empirical case to support the claim that 'emotional' neurobiology is responsible for moral intuitions. For example, damage to the pre-frontal cortex correlates with impaired moral intuitions.³ In addition, individuals with a self-reported 'strong' sense of justice have heightened activity in the pre-frontal cortex when viewing morally-loaded stimuli, when compared with individuals who self-report a 'weak' sense of justice.⁴ There is not scope to outline all the relevant data.⁵ But I think the current data provides sufficient reason to think that 'emotional' neurobiology underpins moral intuitions.

If moral intuitions do have a neurological basis, then there is reason to think that moral intuitions are subject to natural selection. The claim that neurochemistry has a genetic basis is uncontentious.⁶ But in order to vindicate the claim that moral intuitions evolved to maximise reproductive success and *not* to track moral truth, it is necessary to show that there exists a selection

¹ McMahan, *Blackwell Guide to Ethical Theory* 104-105.

² Shenhav and Greene, 'Integrative Moral Judgement' 4741.

³ Raine and Yang, 'Neural Foundations to Social Behaviour' 20.

⁴ Yoder and Decety, 'The Good, the Bad, and the Just' 4161.

⁵ For two recent meta-analyses see Sevinc and Spreng, 'Contextual and Perceptual Brain Processes Underlying Moral Cognition' and Lisofsky et al., 'Investigating Socio-Cognitive Processes in Deception'.

⁶ Gazzaniga et al., *Cognitive Neuroscience: The Biology of the Mind* 588.

pressure such that moral intuitions evolved *for some other reason*.

I argue that the reason natural selection shaped moral intuitions into their current form is that intuitions similar to our own promote co-operation. There is a strong empirical case from behavioural ecology suggesting that co-operation improves the fitness of organisms.⁷ As such, genes ‘coding for’ moral intuitions that increase the probability of co-operation are likely to be favoured by natural selection.

This might seem counter-intuitive. On the one hand, natural selection requires a struggle for life, such that it seems to be the case that if morality exists then it is a ‘veneer’ for selfish agents to maximise payoffs in terms of reproductive success.⁸ On the other hand, moral sentiments feel genuine. When humans act morally, it seems to be the case that we have genuine concern for the wellbeing of others.⁹

This conflict can be settled as follows. First, it is not necessary that organisms *cognise* the underlying fitness benefits of their behaviour. Moral intuitions evolved through variation and selection according to different combinations of intuitions. If genuine empathy increases fitness, then genes for genuine empathy will spread through the gene-pool. The next issue is more complex. How can co-operative sentiments, which often impose a cost to reproductive fitness, spread through the gene-pool?

There are at least two senses in which co-operation promotes fitness. In groups with high-relatedness, for example ant colonies with sterile workers sharing 3/4 of their genes with the queen, altruism is a stable route to gene-propagation. The only method for the sterile workers to pass their genes to the next generation is to service the queen at a cost to their individual fitness. But in doing so, they promote their *inclusive* fitness, which is a measure of the individual’s fitness in addition to the weighted sum of the fitness of the

⁷ Nowak, ‘Five Rules for the Evolution of Co-operation’ 1560-5163.

⁸ Joyce, *The Evolution of Morality* 14; Curry, *Morality as Natural History* 192-193.

⁹ This remains a matter of dispute but for good discussions see Stich, ‘Evolution, Altruism and Cognitive Architecture’ and Sober and Wilson, *Unto Others*.

individual's relatives. As this predisposition towards altruism arises through 'emotional' neurochemistry (most species do not cognise their actions), there is reason to think that human moral intuitions developed at some early stage to maximise cooperation, and by extension fitness, as opposed to tracking moral truth.

The second mechanism does not require relatedness. Axelrod and Hamilton found that co-operative strategies achieve higher payoffs than 'spiteful' or 'selfish' strategies in iterated prisoner's dilemmas.¹⁰ Iterated prisoner's dilemmas often occur in nature, with examples as diverse as reciprocal grooming and the symbiotic relationship between whales and cleaner-fish.¹¹ Though there is ample opportunity to defect, for example being groomed by another individual and not grooming them back in response, Axelrod and Hamilton's insight was to see that co-operative strategies yield higher payoffs in the long-term, and are therefore likely to be favoured by natural selection.

McMahan expresses some concern that humans often display biologically counter-productive behaviour, and as such, naturalistic explanations of moral intuitions might be unsatisfactory.¹² There are at least three problems with this argument. First, biologically counter-productive is a point of view. From the perspective of individual fitness, all altruistic behaviours are counter-productive. But from the perspective of inclusive fitness, these might have a benefit. Second, a behaviour that imposes a cost at a time t might enhance the reputation of an organism within a community, such that it incurs a potential benefit at a time ti .¹³ Third, natural selection does not strive for 'optimal' solutions, because each incremental change must confer a benefit. As such, intuitions might be stuck at a 'local-optimum' such that biologically counter-productive behaviour *sometimes* occurs, but on the whole, the benefit of the intuition outweighs the cost.

¹⁰ Axelrod and Hamilton, 'The Evolution of Cooperation'; Axelrod and Dion, 'The Further Evolution of Cooperation'.

¹¹ Trivers, 'The Evolution of Reciprocal Altruism'.

¹² McMahan, *Blackwell Guide to Ethical Theory* 118-119.

¹³ Haidt, 'The New Synthesis in Moral Psychology' 1000.

In light of these considerations, I think there is good reason to think that moral intuitions evolved to maximise co-operation, and in turn, reproductive success. Unless the maximisation of fitness is moral truth in some respect, it is difficult to argue that the evolution of moral intuitions converges on moral truth. This is because natural selection is a normatively-empty algorithm that works through differential survival of the fittest. The thesis that human moral intuitions are categorically different to those of vampire bats punishing non-reciprocating free-riders.¹⁴ or capuchin monkeys refusing to participate in tasks if their partner is ‘unfairly’ rewarded for the same action,¹⁵ is hard to support. As such, I think there is good reason to think that our non-inferential judgements are in some respect independent of the natural world.¹⁶

These considerations put question to the claim that moral intuitions are indicators of moral truth.¹⁷ In the absence of a strong counter-argument, it seems that moral intuitions ought to be categorised alongside other neurological responses such as the ‘fight or flight’ response. That is, at present there is no good reason to think that moral intuitions provide insight into moral truth. As such, I argue that moral intuitions ought to be seen as biochemical states of affairs as opposed to indicators of moral truth. This provides the platform for the central claim of the paper. If moral intuitions are biochemical state of affairs, without normative character, then deriving normative conclusions from moral intuitions commits Hume’s is-ought fallacy. That is, no normative conclusion strictly follows from non-normative premises concerning states of affairs in the world.¹⁸ To draw a normative claim from an emotional response is fallacious reasoning.

This is a contentious claim. A major objection is that the argument behind the claim commits the ‘genetic fallacy’.¹⁹ Genetic fallacy occurs when

¹⁴ Curry, *The Evolution of Morality* 64; Dawkins, *The Selfish Gene* 230-231; Wilkinson, ‘Reciprocal Food-Sharing in the Vampire Bat’.

¹⁵ Brosnan and de Waal, ‘Monkeys Reject Unequal Pay’ 297.

¹⁶ Gintis et al., ‘Strong Reciprocity and the Roots of Human Morality’.

¹⁷ Singer, ‘Ethics and Intuitions’ 337.

¹⁸ Hume, *Enquiries* 335.

¹⁹ Joyce, *The Evolution of Morality* 179.

historical relations are conflated with logical relations.²⁰ It might be the case that Marx suffered from a skin condition that caused feelings of alienation. But this is not sufficient to undermine Marx's work simpliciter, because there might exist good independent reason to subscribe to Marx's ideas.²¹ In the same line of thought, it is not immediately clear that explaining the evolutionary history of moral intuitions is sufficient to undermine the claim that moral intuitions have normative force. There might be good independent reason to subscribe to intuition-based moral theories.

I think there is reason to be sceptical about this objection. The argument in this paper aims to use evolutionary considerations to undermine the *justification* behind the use of moral intuitions to draw normative conclusions. It might be the case that moral intuitions provide a reliable indication of moral truth. But this would require an improbable set of circumstances, in which moral truth is found to equate with an independent evolutionary mechanism that promotes co-operation and ultimately reproductive success. The claim is that, with the present data, there is no good reason to think that moral intuitions provide a reliable indication of moral truth. Until data is found to the contrary, we are not *justified* in asserting that moral intuitions have normative weight.

But it might be objected that this response, and indeed the entire paper, pre-suppose meta-ethical objectivism. The argument states that the evolution of moral intuitions does not track moral truth. But suppose there is no mind-independent moral truth. If this situation obtains, it is difficult to see the relevance of the fact that moral intuitions do not track moral truth. In order to support moral objectivism, it is not possible to appeal to intuition because the same argument can be made against our intuitive sense of meta-ethical objectivism. As such, it might be the case that an independent argument for meta-ethical objectivism is needed for the argument to succeed.

I think this objection fails to consider the *exact* role of the claim that moral intuitions did not evolve to track moral truth in the argument. The claim that

²⁰ Cohen and Nagel, *Introduction to Logic and Scientific Method* 388-439.

²¹ Kahane, 'Evolutionary Debunking Arguments' 105.

moral intuitions did not evolve to track moral truth is used to support the claim that moral intuitions are better seen as biochemical states of affairs, rather than indicators of moral truth. It seems to be the case that the argument retains its force, irrespective of whether meta-ethical objectivism obtains.

On the one hand, if objectivism does obtain, moral intuitions did not evolve to track moral truth and are therefore best seen as biochemical states of affairs. On the other hand, if objectivism does not obtain, moral intuitions remain as biological states of affairs. It would take a substantial independent argument to show that moral intuitions indicate moral truth. As such, irrespective of whether moral objectivism obtains, there is still good reason to think that deriving normative conclusions from moral intuitions commits Hume's is-ought fallacy.

But perhaps this overstates the importance of normative claims. There seems to be an implicit association between normative claims and some sort of metaphysics, such the truth-values of normative claims are logically independent of states of affairs in the world. If we adopt an entirely descriptive account of the term 'ought',²² then the fact that moral intuitions are biochemical states of affairs does not entail that their use in deriving normative conclusions commits a fallacy. But this reveals a problem with Hume's claim that *ought* cannot be derived from *is*. It is beyond the scope of this paper to defend this claim, which I think there is at least some reason to doubt. I intended to show that a certain characterisation of moral intuitions results in an *ought* being derived from an *is*, when normative claims are derived from these intuitions. And I think there is reason to believe this is true. But whether this has important implications for ethics is another question that will likely pivot on the soundness of Hume's is-ought argument.

In this paper, I argued that deriving normative conclusions from moral intuitions commits the is-ought fallacy. First, I outlined a biological account of moral intuitions. I then argued that moral intuitions evolved to maximise reproductive success and *not* to track moral truth. Second, I argued that this supports the claim that moral intuitions are biochemical states of affairs and

²² Richards, 'A Defence of Evolutionary Ethics' 286-290.

not indicators of moral truth. Third, I argued that this provides reason to think that deriving normative conclusions from moral intuitions commits Hume's is-ought fallacy. Fourth, I defended this argument against two objections. I conclude that deriving normative conclusions from moral intuitions commits Hume's is-ought fallacy.

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