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The Role of Emotional Intuitions in Moral Judgments and Decisions

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Biography

Catherine Gee is a PhD student in philosophy at the University of Waterloo in Waterloo, Ontario. Her primary research interests lie at the intersection of philosophy and psychology, and in philosophy of psychiatry in particular. Issues concerning the proper classification of mental disorders and their implications for treatment are one of the current topics she is working on, in addition to projects in philosophy of mind and philosophy of science.

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Abstract

Joshua D. Greene asserts in his 2007 article “The Secret Joke of Kant’s Soul” that consequentialism is the superior moral theory compared to deontology due to its judgments arising from “cognitive” processes alone without (or very little) input from emotive processes. However, I disagree with Greene’s position and instead argue it is the combination of rational *and* emotive cognitive processes that are the key to forming a moral judgment. Studies on patients who suffered damage to their ventromedial prefrontal cortex will be discussed as they are real-life examples of individuals who, due to brain damage, make moral judgments based predominately on “cognitive” processes. These examples will demonstrate that the results of isolated “cognitive” mental processing are hardly what Greene envisioned. Instead of superior processing and judgments, these individuals show significant impairment. As such, Greene’s account ought to be dismissed for does not stand up to philosophical scrutiny or the psychological literature on this topic.

Keywords

Consequentialism, deontology, moral judgments, emotion, cognition, ventromedial prefrontal cortex

Recent research in cognitive science has shed new light on philosophical moral theories by unveiling what cognitive processes are at work when we contemplate moral issues. Joshua D. Greene asserts that consequentialism is the superior moral theory due to its judgments arising from “cognitive” processes alone without (or very little) input from emotive processes. However, I disagree with Greene’s position and instead argue it is the combination of rational and emotive cognitive processes that are the key to forming a moral judgment. Furthermore, I will show that even with possible amendments, Greene’s account does not stand up to philosophical scrutiny or the psychological literature on this topic.

I will begin by briefly detailing Greene’s argument and contrasting it with the claim that both emotion and reason are part of the moral judgment cognitive process and are very much intertwined. In the second section, I will demonstrate what happens when one only uses “cognitive” processes when forming moral judgments as Greene endorses, by presenting research on patients with ventromedial prefrontal cortex (VMPFC) damage. As a result of brain damage, these patients appear to primarily utilize the “rational” or “cognitive” regions of the brain with little input from emotive signaling. This is similar

to how Greene asserts one arrives at a consequentialist moral decision. However, studies have shown that decisions made via these isolated “cognitive” reasoning processes can have disastrous results when implemented into action. Finally, I will conclude with a discussion of the material in which I will be arguing why a more complete and accurate moral theory will recognize the role that emotional processes have in our moral decision making, and why an ideal theory cannot omit an emotive aspect as Greene posits.

1. Greene on Consequentialism and Deontology:

Greene argues that deontology emphasizes moral rules, often in terms of rights and duties, and one makes this type of judgment by following these moral rules. While deontology does take consequences into account, it may require us to do things that do not produce the best possible consequences (Greene 2007, 37). However, for consequentialism, Greene asserts “the moral value of an action is in one way or another a function of its consequences alone” (2007, 37). It aims to produce the best overall consequences, if not directly then indirectly as consequences are the *only* things that ultimately matter (2007, 37). Greene states that deontology and consequentialism refer to *psychological natural kinds* and instead of philosophical inventions the two terms are better classified as “philosophical manifestations of two dissociable psychological patterns, two different ways of moral thinking” (2007, 37). What he is interested in here are the “relevant functional roles” of the two theories and not the “conventional philosophical definitions” (Greene 2007, 38). These functional roles evoke different kinds of judgments, which then lead to different types of conclusions based on these judgments. Consequentialist judgments favor “characteristically consequentialist” conclusions, such as it is better to save more lives when faced with a moral dilemma like the trolley problem¹ (Greene 2007, 39). Deontological judgments, in contrast, are judgments that are in favor of “characteristically deontological” conclusions like “it’s wrong despite the benefits” (Greene 2007, 39). Greene admits that while he would not assert that either approach is strictly emotional or “cognitive”, he argues that consequentialism is more cognitively driven while deontology is more emotionally motivated (2007, 41).

1. There are several variations of this problem but the basic idea is this: there is a runaway trolley racing down a track headed towards five people who are unable to move. You happen to be standing next to a lever that if pulled, will divert the trolley to a side track, thus saving the five people. However, you notice that there is one person on the other track who is also unable to move. The problem is deciding what you ought to do in this situation: Pull the lever and save the five people but one person will be killed as result of the diverted trolley, or do nothing and save the one but the trolley will kill the five.

Greene and his colleagues used the trolley problem to test the cognitive versus emotive distinction and to discover in which types of scenarios participants utilized cognitive or emotive mental processes. They proposed that the footbridge dilemma² in the trolley problem is more of an “up-close” and “personal” matter to deliberate that “is more emotionally salient than the thought of bringing about similar consequences in a more impersonal way (e.g., by hitting a switch)” (Greene 2007, 43). When harm is impersonal, argues Greene, it fails to trigger alarm-like emotional responses and thus allows one to respond in a more “cognitive” manner that is more detached than personal cases (2007, 43). However, when one contemplates personal moral dilemmas (the more “up-close” scenarios) Greene argues there is relatively greater activity in the emotion-related areas of the brain,³ whereas contemplation of impersonal moral dilemmas resulted in relatively greater neural activity in the “cognitive” areas of the brain.⁴

Greene states that deontological judgments tend to arise from emotional responses and as such deontological philosophy is to a large extent an exercise in moral *rationalization* rather than being grounded in moral *reasoning* (2007, 36). He contrasts this with consequentialism, which he argues arises from quite different psychological processes, processes which are more “cognitive” than those that lead to deontological judgments, and as such are “more likely to involve genuine moral reasoning” (Greene 2007, 36). Greene states “cognitive” representations are inherently neutral because they “do not automatically trigger particular behavioral responses or dispositions” (2007, 40). In contrast are the “emotional” representations that have automatic effects and are thus behaviourally valenced (Greene 2007, 40). Greene uses “cognitive” to signify the term being used in a narrow sense that is in contrast with emotion (2007, 40).

Greene takes his argument a step further and posits that our emotional intuitions have been “shaped by morally irrelevant factors having to do with the constraints and circumstances of our evolutionary history” and thus thinks they ought not to be trusted (2007, 75). Instead, the better bet is to uphold consequentialist principles that are devoid of these morally irrelevant intuitions as they “provide the best available standard for

2. Similar to the original problem, however this time you are standing on a footbridge above the runaway trolley headed towards the five people. There is a fat man standing next to you on the bridge and you realize that he is big enough to stop the trolley if he fell onto the tracks in front of it. Do you push him to stop the runaway trolley, thus killing him but saving the five, or do you do nothing and the trolley will continue on and kill the five?

3. The posterior cingulate cortex, the medial prefrontal cortex, and the amygdala (2007, 44).

4. The dorsolateral prefrontal cortex and inferior parietal lobe (2007, 44).

public decision making” (Greene 2007, 77). I will return to this argument later in the paper to explore it further after I present additional research for discussion.

In contrast with Greene is Jonathan Haidt, a proponent of the Social Intuitionist Model, which argues that when one encounters a moral dilemma one first feels an intuition, such as a flash of disgust or discomfort, and “knows intuitively that something is wrong” (Haidt 2001, 814). It is not until there is a social demand for justification for the intuition that one attempts to create an argument to defend their initial gut reaction or intuition. Haidt asserts that “one becomes a lawyer trying to build a case rather than a judge searching for the truth” (2001, 814). According to the Social Intuitionist Model, a moral judgment is “caused by quick moral intuitions” and is followed by slow moral reasoning after the fact (Haidt 2001, 817). Haidt argues that reason alone is not enough to motivate one to act morally and asserts that “[r]eason can let us infer that a particular action will lead to the death of many innocent people, but unless we care about those people, unless we have some *sentiment* that values human life, reason alone cannot advise against taking the action” (2001, 816). The contrast this model makes between intuition and reasoning is not the contrast between emotion and cognition that Greene takes to be the case. Instead, for the Social Intuitionist Model, “[i]ntuition, reasoning, and the appraisals contained in emotions are all forms of cognition” (Haidt 2001, 818). Intuition occurs quickly, effortlessly, and automatically whereas reason occurs more slowly and requires some effort (Haidt 2001, 818). Moral judgments are the result of automatic and effortless moral intuitions and moral reasoning is the outcome of an effortful process that begins after the moral judgment is already made and arguments are required to support this existing judgment (Haidt 2001, 818).

2. Studies on Ventromedial Prefrontal Cortex Damage

Neurobiological research has been conducted in an attempt to understand the mechanisms of intuitions and the findings are consistent with the Social Intuitionist Model’s marrying of emotive and rational processes. The ventromedial prefrontal cortex (VMPFC) is the area located behind the bridge of the nose (Haidt 2001, 824) that triggers somatic states from one’s memories, knowledge, and cognition (Bechara and Damasio 2005, as cited in Sobhani and Bechara 2011, 643). Damage to this area results in very similar behaviour to that of a psychopath. Damasio’s somatic marker hypothesis “states that experiences in the world normally trigger emotional experiences that involve bodily changes and feelings” (Haidt 2001, 825). Once the brain is “properly tuned up” by repeated experiences of these emotional conditionings (think Pavlov) “the brain areas that monitor

these bodily changes begin to respond whenever a similar situation arises” (Haidt 2001, 825). These emotional signals “function as covert, or overt, biases for guiding decisions” (Damasio 1994, as cited in Sobhani and Bechara 2001, 643). Where the VMPFC⁵ comes into play is that it integrates these feelings, or ‘somatic markers’, with the individual’s other planning and knowledge functions and helps the brain decide quickly on a response that is the result of both emotional and rational processes (Haidt 2001, 825). Damage to the VMPFC leads to defective activation of somatic states (the emotional signals) which in turn affects the perceived value of given scenarios and options (Damasio 1994, as cited in Sobhani and Bechara 2011, 643).

The link between the functioning of the ventromedial area of the prefrontal cortex and moral behaviour has been explored extensively by Damasio and his colleagues. Patients with brain damage that is restricted to the VMPFC show no reduction in their reasoning abilities (Damasio 1994, as cited in Haidt 2001, 824). In fact, “[t]hey retain full knowledge of moral rules and social conventions, and they show normal abilities to solve logic problems ... and even hypothetical moral dilemmas” (Damasio 1994, as cited in Haidt 2001, 824). However, when the patients are presented with real decisions “they perform disastrously, showing poor judgment, indecisiveness, and what appears to be irrational behavior” (Haidt 2001, 824). According to this research “the central deficit resulting from destruction of the VMPFC is the loss of emotional responsiveness to the world in general and to one’s behavioral choices in particular” (Haidt 2001, 824). For example, when shown pictures that elicit a strong reaction from control subjects without VMPFC damage (such as nudity, mutilation, or death) the patients with the brain damage report feeling nothing in response to the pictures and skin conductance responses confirm their lack of emotional response (Damasio, Tranel, and Damasio 1990, as cited in Haidt 2001, 824).

Researchers also conducted studies involving gambling tasks and the results demonstrate that patients with VMPFC damage are lacking the unconscious biases that are derived from previous experiences with reward and punishment (Sobhani and Bechara 2011, 645). These biases help deter people from pursuing a course of action that is not advantageous in the future as they learn from their past mistakes (Sobhani and Bechara

5. While the VMPFC is a critical component, other regions in the neural system ought to be noted as well, such as the amygdala, insula and somatosensory cortices, dorsolateral prefrontal cortex, and hippocampus (Sobhani and Bechara 2011, 642). Furthermore, different brain regions may also provide different contributions to the overall process of decision-making (Bechara and Damasio 2005, as cited in Sobhani and Bechara 2011, 642). The involvement of these other regions do not, however, undermine the importance the role the VMPFC plays in moral decision making.

2011, 645). Without these biases one still may possess knowledge of what is right and wrong (or the best course of action in the gambling task) but without the biases the knowledge alone is “not sufficient to ensure an advantageous behavior” (Sobhani and Bechara 2011, 645). The researchers conclude that having knowledge in absence of the emotional or somatic signaling leads one to experience dissociation between what one knows and how one decides to act (Sobhani and Bechara 2011, 645). Sobhani and Bechara hypothesize that without the emotional component in the moral judgment decision-making process, a person is “left making a more pragmatic decision based on the facts of the situation, with a special emphasis on the outcome of the situation and less so on the inferred or abstract events or intentions” (2011, 647). For example, patients with VMPFC damage judged *attempted harms*, including attempted murder, as more morally permissible relative to the controls on a scenario task used to judge harmful intent (Sobhani and Bechara 2011, 647). The patients demonstrated that they did not factor in the negative intentions described in the scenarios and instead focused on the action’s neutral outcome.

This is essentially the consequentialism described by Greene, but instead of commending it as a preferable “cognitive” approach Sobhani and Bechara view it as an impairment resulting from a lack of emotional input via the VMPFC. Thus, despite the difference in opinion regarding the outcome both sets of researchers can be seen to be arguing for the same conclusion, that a lack of emotion leads to a consequentialist position. To reiterate, Greene defines consequentialism as the superior moral theory over deontology due to the former resulting in judgments and decisions that are unencumbered by one’s emotions. This permits one to make a moral decision that is the result of “genuine moral reasoning” rather than a rationalization based on emotional intuitions, as in deontology. A real life example of this type of decision making occurs in individuals with VMPFC damage who make “consequentialist” decisions, both moral and otherwise, due to a lack of input from somatic signaling.

It is interesting to note the differences that arise in cases of ventromedial prefrontal cortex damage that occurred later in life compared to injuries that were sustained at a very young age. Those with early-onset lesions “failed to show normal learning of rules and strategies from repeated experience and feedback” and had significant impairment of social-moral reasoning and verbal generation of responses to social situations (Anderson et al. 1999, 1033). These patients “demonstrated little consideration of the social and emotional implications of decisions, failed to identify the primary issues involved in social dilemmas and generated few response options for interpersonal conflicts” (Anderson et al. 1999, 1033). Their performance was “in stark contrast” to patients who had adult-onset

prefrontal lesions, as the latter were still able to access the “facts of social knowledge” in laboratory scenarios (Anderson et al. 1999, 1033).

3. Discussion

Hopefully, by this point, the problems that arise from Greene’s preference of “cognitive” processing that is isolated from emotional input are apparent. By examining studies on ventromedial prefrontal cortex damage we are able to see real-life examples of Greene’s “cognitive” processing in action, and the result of decision making when emotion is divorced from reason. Decision-making can still occur, as we have seen in these cases, but it is devoid of the valuable emotive and somatic marker inputs that lead to truly “moral” judgments. The somatic markers are what motivate and guide us towards a moral decision based on the judgment they evoke. If a purely “rational” process, that is a process absent the somatic markers, was what led us to make the “best” or most rational moral judgments as Greene argues, then patients with ventromedial prefrontal cortex damage would arguably be the best example of this theory in practice. Unencumbered by emotional processing that struggles with how personal and “up-close” a moral dilemma is, these individuals should be making the clearest, most concise, and correct moral decisions. However this is not the case, as these individuals do not learn from repeated mistakes even with explicit knowledge of the consequences of their decisions (Sobhani and Bechara 2011, 642). They demonstrate impaired judgment and decision-making as well as impaired moral judgment (Sobhani and Bechara 2011, 642). Individuals who suffered the brain damage in their adulthood began to make choices that were no longer advantageous to themselves and these decisions were “remarkably different from the kinds of choices they were known to make before their brain damage” (Sobhani and Bechara 2011, 642). They often decided against their own best interests and many suffered a loss of family and friends as well as their social standing (Sobhani and Bechara 2011, 642). These dramatic results were not due to a decline in intelligence, for in “striking” contrast to their real-life decision making impairment, these patients performed normally in most laboratory tests of problem solving, and conventional clinical neuropsychological tests demonstrated the patients’ intellects were still in the normal range after the damage (Sobhani and Bechara 2011, 642).

These research results stand in sharp contrast to Greene’s claims that I discussed in the first section of this paper. If intuitions are morally irrelevant and the emotive drive tied to them ought to be disregarded, then why do patients with ventromedial prefrontal cortex damage not make advantageous decisions instead of disastrous ones? After all, these

individuals are real life examples of agents who are able to think and act the way Greene endorses, yet the studies show how impaired their moral judgments and decisions are. I do not think the problem lies with consequentialism itself but rather Greene's treatment and definition of the theory. While consequentialism looks to the consequences of an action to determine if it is morally permissible or not, nothing necessitates that the examination of the consequences ought to be done by omitting emotion entirely. When one looks at an attempted murder case, for example, Greene's treatment of it appears to be similar to the viewpoint of the patient with VMPFC damage in that the intention does not matter for in the end, a life was not actually lost. Most would disagree with this conclusion as it feels like something is missing. *Feels* is the key word here, as one experiences intuitive discomfort at excusing the attempted act just because no concrete physical consequence resulted. Haidt makes my point rather well when he says "[i]t is not contrary to reason to kill your parents for money unless it is also contrary to sentiment" (2001, 824). By removing the emotive aspect from consequentialism Greene is omitting an important cognitive input that is necessary for a better and more complete account of consequentialism.

As mentioned in the beginning of the paper in the section on Greene's argument, he throws in an attempt to either weaken his claim or hand-wave about the divisibility of cognition and emotion by asserting that he does not believe that either approach is strictly emotive or "cognitive." He continued in the same sentence that he also does not maintain that "there is a sharp distinction" between the two (2007, 41). Greene states that he is sympathetic to Hume's claim that moral judgments (including consequentialism) must have an emotional component to them (2007, 41). However, he follows this statement by saying "[b]ut I suspect that the kind of emotion that is essential to consequentialism is fundamentally different from the kind that is essential to deontology, the former functioning more like a currency and the latter functioning more like an alarm" (Greene 2007, 41). Can Greene make such assertions and still maintain his position? I argue that he cannot. The separation he finds in cognition and emotion play too important of a role in his argument for it to be eliminated or minimized, for his conclusion requires this distinction. Greene's favouring of consequentialism over deontology is based on the mental process he finds superior—those of "cognitive" origin. This process cannot be superior to emotive processes due to the cognitive's "genuine moral reasoning" if there is any element of the emotive processes involved. The way Greene has presented his argument is that any involvement of automatically triggered behavioural or emotive responses would seem to taint the colder "rational" cognitive process by allowing "rationalization" to occur based

on “morally irrelevant factors.” Thus, Greene’s argument only stands if there is a strict separation of the cognitive and emotive processes.

However, the research shows—and Greene even admits—that there is no such divorce of the two mental processes in individuals with ‘normal’ brain function. Furthermore, as I have demonstrated, when this separation does exist in brain-damaged patients the moral judgments and conclusions are hardly what Greene envisioned. As a result, Greene is left in a difficult position. He could amend his account to fully deny the possibility that moral judgments include both cognitive and emotive processes, in which case his argument itself will be stronger due to his conclusion necessitating this distinction. However, by taking this firmer stand Greene will be in opposition to the numerous studies in the psychological literature that disprove the isolation of the two processes. On the other hand, Greene could amend his account to accommodate the research and accept the intertwined roles cognitive and emotive processes play in moral judgments. In doing so, however, he cannot maintain his conclusion that consequentialism (as he defines it) is the superior moral judgment due to it arising from the “better” cognitive process. None of the available options (leave his account as is, strongly maintain the separation, or accept the marriage of the two types of processes) are viable, and unless Greene can come up with another amendment that I have overlooked, his account ought to be dismissed.

Moral judgments cannot be made without *both* rational and emotive processes or it no longer remains a moral judgment. It would then become something else, the result of a different type of judgment and decision that stemmed from impaired mental processing. Emotional intuitions that arise from somatic markers are the key which distinguishes mere mental processing and decision making from *moral* cognitive processing and decision making. Any attempt to separate cognitive from emotional processing contradicts the psychological literature on the matter as well as the essence of what it means to judge morally.

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