The Morality of Dual Mode Camera: Catholic Theological Perspectives on Joshua Greene's Dual Process Theory of Moral Judgements[*]

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ABSTRACT: Recent research on the neuronal background of human decision-making, carried out by Joshua Greene, challenges various parts of traditional Christian ethics: the Principle of Double Effect, deontology and virtue ethics. The Principle of Double Effect is a standard principle used in bioethics and several other ethical fields. It is sometimes illustrated by two thought experiments, the Trolley dilemma and the Footbridge dilemma. Greene claims that "from a psychological point of view, the crucial difference between the Trolley dilemma and the Footbridge dilemma lies in the latter's tendency to engage people's emotions in a way that the former does not." Moreover, he is convinced that Kant's deontology is nothing more than rationalization of our tribal morality, whereas virtue ethics is a mere description of Aristotle's tribal morality.

Although Greene's experiments and positions have been reflected on in Protestant theological ethics, so far there has been virtually no response from the side of Catholic moral theology. In this article, it is argued that Greene's experiments are compatible with Catholic moral tradition. They do not necessarily lead, on the one hand, to the subversion of either the Doctrine of Double Effect or deontological ethics. The means/side effect distinction, which is the essence of the Principle of Double Effect, may be evolutionarily conditioned, but this would only mean it is part of our nature.

Similarly, the utilitarianism proposed by Greene is no more impartial than 'intuitive' deontological judgement. In fact, the utilitarian analysis is often expected to be as impartial as the free market, but free markets are not always as free as liberal economists would like us to believe. Greene's research, on the other hand, can help us understand better certain parts of our Catholic tradition, especially the need for a preferential option for the poor and for seeking truth through dialogue.

KEY WORDS: Trolley Dilemma; Principle of Double Effect; Metamorality; Joshua Green; Dual Process Theory of Moral Judgements.

La moralidad de la cámara de modo dual: perspectivas teológicas
católicas sobre la teoría del proceso dual de Joshua Greene

Resumen: Las investigaciones recientes sobre el trasfondo neuronal de la toma de decisiones humanas llevadas a cabo por Joshua Greene desafían varias partes de la ética cristiana tradicional: el principio del doble efecto, la deontología y la ética de la virtud. El principio del doble efecto es un principio estándar utilizado en la bioética y en otros campos éticos. A veces se ilustra con dos experimentos mentales: los dilemas del tranvía (*Trolley dilemma*) y del puente peatonal (*Footbridge dilema*). Greene afirma que "desde un punto de vista psicológico, la diferencia fundamental entre el dilema del tranvía y el del puente peatonal radica en la tendencia de este último a involucrar las emociones de las personas de una manera que el primero no hace". Además, está convencido de que la deontología de Kant no es más que la racionalización de nuestra moral tribal, mientras que la ética de la virtud es una mera descripción de la moral tribal de Aristóteles.

Aunque los experimentos y posiciones de Greene se han reflejado en la ética teológica protestante, hasta ahora prácticamente no ha habido respuesta del lado de la teología moral católica. En este artículo se argumenta que los experimentos de Greene son compatibles con la tradición moral católica. Por una parte, no conducen necesariamente a subvertir la doctrina del doble efecto ni la ética deontológica. La distinción medios/efectos secundarios, que es la esencia del principio del doble efecto, puede estar condicionada evolutivamente, pero esto solo significaría que forma parte de nuestra naturaleza.

De manera similar, el utilitarismo propuesto por Greene no es más imparcial que el juicio deontológico "intuitivo". De hecho, a menudo se espera que el análisis utilitario sea tan imparcial como el libre mercado, pero los mercados libres no siempre son tan libres como los economistas liberales quieren hacernos creer. Por otra parte, la investigación de Greene puede ayudar a entender mejor ciertos aspectos de nuestra tradición, especialmente la necesidad de una opción preferencial por los pobres y la búsqueda de la verdad a través del diálogo.

Palabras clave: Dilema del tranvía; principio de doble efecto; metamoralidad; Joshua Green; teoría del proceso dual de los juicios morales.

Introduction

"The best decisions are those you enjoy", reads the slogan of one car brand. Do not ask your brain, ask your heart instead! Psychologists of all kinds have been researching various ways of thinking and decision-making for decades, suggesting various hypotheses, which have one point in common: there are two types of thinking—one fast and effortless, the other slow and strenuous. Surprisingly and despite what we were taught in schools, painful thinking does not always lead to better outcomes.

One of the most prominent proponents of dual process theory is the American ethicist and neuroscientist Joshua Greene. He designed and performed a series of experiments demonstrating how the two processes in our brain render moral judgements. He claims that humans use two distinct cognitive subsystems in moral reasoning: one fast, intuitive and emotionally-driven; the other slow, but flexible.[1] Occasionally, these two subsystems may come into conflict, which results in a moral dilemma.

One would assume that this theory belongs to descriptive ethics and has little or no impact on concrete reasoning about good and bad behavior. Nevertheless, Greene draws disturbing normative conclusions from his experiments.[2] On the one hand, they allegedly prove deontological ethics to be irrational, i.e. driven by emotions and only subsequently rationalized.[3] On the other hand, this should imply that utilitarianism— "the most underrated and misunderstood idea in all of moral and political philosophy"[4]—becomes in the light of dual-process theories more attractive and even suitable to be used as a meta-morality.[5] In addition, Greene "casts serious doubt on the moral legitimacy of the hallowed Doctrine of Double Effect,"[6] which has been so important for Catholic moral theology for at least two last centuries.

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[1] In fact, the theory is a domain-specific instance of the more general dual process theory formulated by Daniel Kahneman (Kahneman, *Thinking, Fast and Slow*) and other authors. Greene, however, does not use Kahneman's terminology "system 1 and system 2", and only mentions Kahneman's theory once (Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 134).

[2] Greene is not the only one drawing far-reaching conclusions for ethics from neuroscience. Vicente Valenzuela Osorio therefore calls for a multidisciplinary approach, which gives neuroscience its proper place in moral discussion (Valenzuela Osorio, "Enfoques y postura crítica de la relación entre teología y neurociencias," 236-262) According to Peter Volek, The integration of various philosophical, psychological and neuroscientific methods could be accomplished through the philosophy of mind (Volek, *Človek, svobodná vôľa a neurovedy*, 45-46).

[3] Greene, "The Secret Joke of Kant's Soul," 35-79.

[4] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 106-107.

[5] Ibid. 16.

[6] Ibid. 224.

However disturbing these statements are for moral theology, only a few theologians have reflected upon them.[7] In 2011, the psychologist and neuroscientist Michael L. Spezio wrote an article, "The Neuroscience of Emotion and Reasoning in Social Contexts: Implications for Moral Theology."[8] Despite the subtitle, the paper provides no theological reflection apart from the author's claim that the new model of decision-making "has implications for moral theology, especially any system that values human relationality."[9]

Some of these implications could be connected with our inclination to evil. "The most significant feature of Greene's dual-process theory," says American ethicist Conor M. Kelly, "at least for the effort to explain how structural sin operates, is its assertion that affective intuitions are involved in all moral judgments, even those ostensibly made by non-affective processes exerting cognitive control."[10] This is certainly true. Nevertheless, because of the article's focus on structural sin, Kelly does not evaluate Greene's whole argument, which runs in a completely different direction.

Therefore, the most comprehensive response comes from Neil Messer, who has a background in both science and theology. After receiving his PhD in molecular biology, he became a professor of theology and an ordained minister of the United Reformed Church. Surprisingly, in his book aptly entitled *Theological Neuroethics*, Messer calls Greene "a friend in disguise to Christian ethics" and "an unexpected ally."[11] Can Catholics say the same? The aim of this article is to evaluate Greene's theories from the perspective of Catholic moral theology.

I will argue that Greene's experiments are compatible with the Catholic moral tradition. On the one hand, they do not necessarily lead to the subversion of either

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[7] The international journal for theology *Concilium* dedicated one of its issues to neurosciences. Noticeably, the two articles reflecting on Greene's work did not approach it from a theological perspective, but from a psychological and philosophical one. Stephan Schleim considers the whole turmoil around neurosciences a mere media phenomenon (Schleim, "Auf der Suche nach der letzten Moral. Hirnforschung auf dem Weg von der helfenden Hand zur moralischen Autorität," 423-434). Elisabeth Hildt criticizes the use of debunking strategy and warns against deducing more from the studies then is actually contained in them (Hildt, "Gehirn, Moral und Ethik – wie ist der Zusammenhang?" 435-442). The troubles with debunking arguments are explained in detail in Kahane, "Evolutionary Debunking Arguments," 103-125. Further discussion on empirical debunking arguments in ethics can be found in Kumar and Campbell, "On the Normative Significance of Experimental Moral Psychology," 311-330.

[8] Spezio "The Neuroscience of Emotion and Reasoning in Social Contexts. Implications for Moral Theology," 339-356.

[9] Ibid., 352.

[10] Kelly, "The Nature and Operation of Structural Sin. Additional Insights from Theology and Moral Psychology," 319.

[11] Messer, *Theological Neuroethics. Christian Ethics Meets the Science of the Human Brain*, 40.

the doctrine of double effect or deontological ethics.[12] On the other hand, Greene's research can help us to appreciate certain parts of our tradition, especially the need for a preferential option for the poor and for seeking truth through dialogue. In the first step, I will deal with Greene's research into the Principle of Double Effect and subsequently I will discuss his attempt to draw normative ethical conclusions from neuroscientific research.

Hard Decisions at the Railroad

Greene discovered utilitarianism during his early high-school years as a merely unbeatable discussion strategy. Since then, he has been promoting this ethical theory (which he calls a deep pragmatism) throughout his entire research project—if not as moral truth, then at least as a universal system that works across cultures and social strata.[13] This endeavor, as so many others, would have ended up as one more brilliant, yet forgotten, philosophical argument, if Greene had not established it on a more solid foundation, on a hard, scientific theory.

The roots of this theory go back to 2001, when Greene published his first article in *Science* entitled in technical terms "An fMRI Investigation of Emotional Engagement in Moral Judgment."[14] There he presented the dual process theory of moral judgements as a solution to the Trolley problem. I am going to present briefly Greene's experiment in this chapter and then discuss its possible implications for Catholic moral theology in general and the Principle of Double Effect in particular.

Looking into the Switch-Man's Head

In "The Trolley Problem," Greene recalls his first encounter with this thought experiment, which "brought together, in one beautiful, fruit-fly-like model, all of the things that had been puzzling me since my early teens."[15] To make a long story short, the

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[12] Greene's conclusions are challenged not only by theologians, but also by scientists and philosophers. Pölzler, "Moral Judgments and Emotions: A Less Intimate Relationship Than Recently Claimed," casts doubt on the close association between moral judgments and emotions; Boyd, "Neuroscience, the Trolley Problem, and Moral Virtue," emphasizes the difference between artificial scenarios of thought experiments and real-life dilemmas; Manfrinati et al., "Moral Dilemmas and Moral principles: When Emotion and Cognition Unite" proved that emotion is involved also in consequentialist resolutions; and Sauer, "Morally Irrelevant Factors: What's Left of the Dual Process-model of Moral Cognition?" presents the most comprehensive critique of Greene's theories, criticizing his argument and research design.

[13] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 178 and 189.

[14] Greene *et al.*, "An fMRI Investigation of Emotional Engagement in Moral Judgment," 2105-2108.

[15] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 116.

problem presents two main scenarios (and many derivations), where inaction leads to the death of five people, whereas action can save them all at the cost of sacrificing one other person. In the first scenario, the Trolley dilemma, a runaway trolley is heading for five workers. The only way to save them from sure death is to hit a switch and turn the trolley onto a sidetrack, where only one workman stands. In the second scenario, there is no sidetrack, but the observer is standing on a footbridge and can save five workers by pushing a fat man wearing a large backpack off the bridge, thus stopping the trolley with the man's body and backpack.[16]

The philosophical problem behind these two dilemmas is that even though the math is the same in both cases—sacrifice one to save five—most people approve of hitting the switch, but not pushing the fat man. The Trolley problem materialized Greene's worries about utilitarianism, but it also helped him formulate a preliminary hypothesis about "abstract" and "sympathetic" moral reasoning. Antonio Damasio's famous book *Descartes' Error* led Greene to the suspicion that the two kinds of moral reasoning might be connected to different circuits in the brain.

Greene decided to test this hypothesis together with Jonathan Cohen, a neuroscientist who was "interested in talking to philosophers."[17] Together they designed an experiment. They wrote sixty dilemmas and divided them into three groups: non-moral (choosing the most favorable decision under certain conditions), moral-impersonal (similar to the Trolley dilemma) and moral-personal (similar to the Footbridge dilemma). The difference between the two latter cases was described that one is "up close and personal" whereas the other is not.[18]

Greene and his colleges presented nine participants with all these dilemmas while scanning their brain using fMRI. According to the expectations, moral-personal dilemmas produced significantly more activity in areas associated with emotion (medial frontal gyrus, posterior cingulate gyrus, angular gyrus—bilateral) than the two other types. Nevertheless, areas associated with working memory (middle frontal gyrus—right, parietal lobe—bilateral) were less active. During the replication of the experiment, the team also measured reaction times. The brain imaging results were nearly identical, but it appeared that the minority approving the action in moral-personal dilemmas (e.g. pushing the fat man off the bridge) had a significantly slower reaction time than the other participants. This is attributed to the emotional inference

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[16] For detailed discussion of the problem and its history, see Kovács, *Thought Experiments in Ethics*, 158-212.

[17] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 118.

[18] Greene *et al.*, "An fMRI Investigation of Emotional Engagement in Moral Judgment," 2105-2108.

similar to the Stroop effect (difficulty to name the color a word is printed on if the word is a name of a different color).

Overall, the authors claim that "from a psychological point of view, the crucial difference between the Trolley dilemma and the Footbridge dilemma lies in the latter's tendency to engage people's emotions in a way that the former does not."[19] In other words, people do not decide according to the deontological Principle of Double Effect. In fact, in his subsequent more philosophical works Greene contests not only the influence of the Principle of Double Effect on human decisions, but also its validity.

Double Effect or Modular Myopia?

The Principle of Double Effect is a standard principle used in bioethics and several other ethical fields. It reflects the simple fact that our actions often have more consequences, good and bad, at the same time. According to its standard modern version, we can perform a deed with two effects, one good and one bad, if the following conditions are met: (1) The act itself is either good or morally indifferent; (2) only the good effect is intended; (3) the good effect is not produced by means of the bad one; and (4) there is proportionality between the two effects.[20]

The field of application is wide. The principle helps us point out ethical differences between ectopic pregnancy and induced abortion, use of opioids for pain relief at the end of life[21] and euthanasia, or strategic and terror bombing.[22]

In order to appreciate the real significance of the principle for Catholic theology, it is instructive to look at its occurrence in both magisterial and non-magisterial Vatican documents. One would expect that it would be frequently referred to, but the opposite is true. On the one hand, there are only two documents using it explicitly and in a positive way. The Catechism of the Catholic Church mentions the principle in the discussion of killing in self-defense, simply reporting the discussion in *Summa theologiae* and the International Theological Commission's 2004 document *Communion and Stewardship*.[23] In contrast, the instruction *Dignitas personae* by the Congregation for the Doctrine of Faith refers to the principle negatively insisting that it is not

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[19] Ibid., 2106.

[20] Černý, *The Principle of Double Effect. A History and Philosophical Defense*, 7-8; McIntyre, "Doctrine of Double Effect".

[21] McIntyre, however, doubts that the properly administered opioids can hasten death today (McIntyre, "Doctrine of Double Effect").

[22] Ibid. The author mentions three more example less instructive in this context.

[23] Saint Thomas Aquinas, "Summa Theologiae" II-II, q. 64, a. 7 co; International Theological Commission, "Community and Stewardship. Human Persons Created in the Image of God" 85.

applicable in case of embryo reduction.[24] In many other instances, only one condition of the principle is emphasized, namely that the end does not justify the means.[25]

This brief overview brings us to a significant observation. It is more important what the principle does not allow rather than what it allows. In other words, the indisputable part is about the possibility to act with side-effects, which are sometimes unavoidable (e.g. the side-effects of drugs). What the principle really expresses are the four conditions, and those conditions are characteristic (though not exclusively) for Christian ethos. These restrictions may be summarized in these three basic rules: (1) Our intention must be always good; (2) the end does not justify the means (covering two of the four conditions); and (3) our acts should produce more good than harm (i.e. the proper proportion).

Now it is important to keep in mind that Greene is a utilitarianist, therefore emphasizing especially the criterion of proportionality. What remains controversial is the proverb that the end does not justify the means. This is the essence of the whole principle in his view and therefore he also labels it "the Doctrine of Side Effect."[26]

With respect to the means / side effect distinction, Greene tries to answer two questions: (1) Do we *really* care about the distinction (descriptive level)? And (2) does the distinction really matter (prescriptive level)? Let us start with the first question.

Philippa Foot designed the Trolley problem to illustrate the Double Effect and the means / side effect distinction. Most people approve the action in the case of the Trolley dilemma, but not in the case of the Footbridge dilemma, because the end does not justify the means. As was already said, Joshua Greene presented an alternative hypothesis in his 2001 article, speculating that what really matters is whether the action was "up close and personal" or not. Later on, he modified his hypothesis claiming that our brain is sensitive to both "means / side effect distinction" and "personal / impersonal distinction." Only if both conditions are met at the same time, does our internal alarm sound and we refuse to act according to the utilitarian calculus.[27]

Greene explored this in his 2009 study using several dilemmas derived from the footbridge: pushing the fat guy with a pole, using a remote switch and trap door

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[24] Congregation for the Doctrine of the Faith, "Instruction *Dignitas Personae* on Certain Bioethical Questions" 21.

[25] E.g. John Paul II, "Encyclical Letter *Evangelium vitae*" 65; Paul VI, "Encyclical Letter *Humanae Vitae*" 14; John Paul II, "Encyclical Letter Veritatis Splendor" 92.

[26] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 218.

[27] Ibid., 222.

while standing near or far from the man.[28] He concludes that whereas only 31% of participants approve the action in case of the Footbridge dilemma, it is 63% in case of the trap door and remote switch.[29]

This experiment (together with others) clearly proves that not all people decide in accordance with the Principle of the Double Effect. However, there are still 37% participants who would not hit the switch. If we subtract 13% of those who would not hit the switch even in the original Trolley dilemma, there remains 24% of participants acting consistently according to the Doctrine of Double Effect. This is by no means a majority, but still a significant part.[30]

These doubts about our consistency in use of the Principle of Double Effect (descriptive level) are only the starting point for challenging the validity of the principle (prescriptive level). First of all, Greene stresses that there is no justification for the principle apart from the fact that it is (imperfectly) supported by our intuitions. From this he concludes that "intuitive judgments come first, and that the doctrine is just an (imperfect) organizing summary of those intuitive judgments."[31]

These intuitive judgments allegedly come about as a result of the so-called modular myopia. Modular myopia is a second hypothesis, presupposing a cognitive subsystem sensitive to harms in our plans. This subsystem works as an alarm, but a "myopic" one. This means it is able to process only the main chain of events, remaining blind to the side effects, because only in this manner can it be efficient and automated despite the nearly infinite number of side effects. From this, Greene concludes: "If the modular myopia hypothesis is correct, then the intuitive moral distinction we draw between harm caused as a means and harm caused as a side effect may be nothing more than a cognitive accident, a by-product."[32]

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[28] Greene *et al.*, "Pushing Moral Buttons. The Interaction between Personal Force and Intention in Moral Judgment," 364-371.

[29] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 215.

[30] The figures are only illustrative as Greene draws them from several studies. Of course, there is always the possibility to design new scenarios. One of them is the so-called loop case, in which the sidetrack with the victim used as a "stopper" reconnects to the main track at a point before the five people. Greene reports that 81% of respondents would hit the switch and clearly use the one man as a means to save the five (Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 221). This is very close to the original Trolley Dilemma with 87 % of approvals, which must make the advocates of the Principle of Double Effect uneasy. The reason could be that the loop case is complex, too complex for our automatic moral evaluation is myopic, as Greene himself suggests. It would be interesting to know how the opinions would change if the participants had time to discuss the issue in a group and to sleep on it.

[31] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 223.

[32] Ibid., 240. Similarly, Cushman states that "the DDE looks like a psychological mistake" (Cushman, "The Psychological Origins of the Doctrine of Double Effect," 774).

Does this make the means / side effect distinction irrelevant? Does it really cast "serious doubt on the moral legitimacy of the hallowed Doctrine of Double Effect?".[33] Messer is not convinced, but he presents Greene's position in a strange way, as if it were the Principle of Double Effect which justifies the means / side effect distinction and not vice versa. Nonetheless, he finds in Greene's publications only one weak reason for doubting about the principle: the willingness of contemporary philosophers to abandon it, "when it fails to get the intuitively right answers."[34]

Let us look at Greene's criticism of the Principle of Double Effect from the Catholic perspective. Greene reminds us that the means / side effect distinction is the essence of the Principle of Double Effect, as we have also observed in official Vatican documents. Nevertheless, is it really meaningful to compose complex ethical principles? The modern version of the Principle of Double Effect was formulated already in the nineteenth century by Jean-Pierre Gury, but our times may endorse rather concise rules, like the means /side effect distinction.[35]

Greene considers the distinction morally irrelevant, but he supports this claim only by the biological explanation of our sensitivity to it, as if it were enough. He jumps from "is" to "ought" without further explanation. This is probably because he has in mind only one reason for the distinction, namely the Kantian ethics of duty. Greene is overall critical of Kant, considering his theories as mere rationalization of moral emotions.[36] It is not the aim of this article to defend Kant or Kantianism, but arguably, there are other reasons for the means / side effect distinction, which cannot be so easily explained away.

– First of all, the traditional teaching of sources of morality says that the morality of a human act depends on three things: the object chosen (the "matter" of a human act), the intention and the circumstances (cfr. CCC 1750).[37] The act is good only if all three sources are good, but just one bad source is enough to

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[33] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 224.

[34] Messer, *Theological Neuroethics. Christian Ethics Meets the Science of the Human Brain*, 53.

[35] Gury, *Compendium Theologiae moralis*, Vol. 1, 9-10; Mangan, "An Historical Analysis of the Principle of Double Effect," 41-61.

[36] Greene, "The Secret Joke of Kant's Soul," 35-104. Greene understands rationalization as confabulation, but Mihailov argues: "If a deontological confabulation is to sound like a plausible justification, then it has to involve some features, which are *prima facie* valid." (Mihailov, "Is Deontology a Moral Confabulation?" 12).

[37] The traditional reference text is Thomas Aquinas' *Summa Theologica* I-II, q. 18, a. 2-4, but the theory was elaborated in detail during the era of casuistry and manuals and could also be found in Catholic Church, *Catechism of the Catholic Church* 1750.

make the action bad.[38] Therefore, a good goal or intention cannot turn a bad deed into a good one.

–   Secondly, the means / side effect distinction is also justifiable by the virtue ethics.[39] This kind of ethics is predominantly concerned about the character of the actor and her social interaction. The fundamental question is not "Which action is good?", but rather "How can I become a good person?" For instance, I cannot consider myself an honest person, if I use little lies and frauds for good purposes.

–   Finally, the "ends justify the means" policy is irreconcilable with the uncompromising demands of the Sermon on the Mount, where the apodictic commandments of the Old Testament are rendered even more radically (cfr. especially the antitheses in Matt 5:17-48). Jesus expresses it in a figurative way, "A good tree cannot bear bad fruit, nor can a bad tree bear good fruit" (Matt 7:18).

All these three ethical traditions (biblical ethos, virtue ethics and Catholic casuistry) have their inner reasons why they forbid reaching good ends through evil means. They either emphasize the integrity of goodness or the evil effects on the actor. Of course, Greene could bring about contra arguments like the classical one with lying to the murderer at the door—and there are responses from the advocates of these ethics (just as Greene has to explain the contra arguments against utilitarianism), but this has nothing to do with the neurosciences.

On the contrary, the evolutionary explanation of our feeling differently about causing harm as a side effect and as a means supports the validity of the distinction: it is a part of our nature (manualist ethics), it is a natural substrate for our second nature (virtue ethics) and it is the intention of the Creator to be fully developed in the radical ethics of God's kingdom (Sermon on the Mount). Greene's research can therefore help these three systems to better apprehend how the distinction between means and side effects is imprinted into human nature and elaborate better on its justification.

Apart from the means / side effect distinction, Greene stresses one more thing. Our inner alarm warning against directly caused harm works allegedly only if personal force is involved. This personal force is not reflected in the Catholic moral tradition, prohibiting all direct harmful acts without considering how they were performed.

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[38] Noldin, *Summa theologiae moralis.* Vol. 1: *De principiis*, 77.

[39] After all, James F. Keenan sees in virtue ethics a more apt and up to date answer to the difficulties of manualist theology than the attempts to reform it through proportionalism (Keenan, "The Moral Agent. Actions and Normative Decision Making," 39).

Nevertheless, we can find an analogy in the teaching of material cooperation with evil, which addresses questions such as: How much can I be involved in someone's bad deeds? When should I refuse to participate? The Classical manualist Hieronymus Noldin S.J. (1838-1922) teaches that in certain cases, one can perform an action that by itself is good or indifferent, even though it helps someone else to sin. The rule is that "greater reason is required for proximate then for remote cooperation."[40]

This leads us to the question as to what Catholic moral theology can learn from Greene's experiments. The most important observation is that our intuitive moral judgement is blind to side effects and we need to do something about that. This is especially pressing with respect to social justice, because our intuitive judgement is also blind to harm done without personal force, as is today often the case.

What can we do about it? Whereas Greene suggests a reform of the penal code,[41] Catholic social teaching may give us a broader and more developed solution, namely the preferential option for the poor. It is certainly true that we are not able to think through all the consequences of our decisions and public policies. Most often, we do not need to, because our partners protest vehemently whenever we affect them. There are, however, those marginalized, those left "out of the equation"—as the Pope put it in one interview during his visit to Latin America.

Our throwaway culture leaves them out, "it leaves children out, it leaves young people out, it leaves the elderly out, it leaves out all who are of no use, who do not produce," continues the Pope and concludes resolutely, "and this must not be!."[42] In *Evangelii gaudium*, he gives a more comprehensive list:

> …the homeless, the addicted, refugees, indigenous peoples, the elderly who are increasingly isolated and abandoned, migrants, victims of human trafficking, oppressed women, unborn children and the creation as a whole.[43]

Those people are most often afflicted by the side effects of our decisions and policies, because they have no power to defend their rights. The side effects cannot be solved by utilitarian calculus alone, because, as the Pope reminds us, all the opinion makers "are far removed from the poor," having little direct, even physical contact

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[40] Noldin, *Summa theologiae moralis*. Vol. 2: *De praeceptis*, 119. Unfortunately, Noldin provides examples such as various cooperation on printing of prohibited books or cooperation with Protestants, which discredits the concept today. Nevertheless, the question remains pressing.

[41] Greene and Cohen, "For the Law, Neuroscience Changes Nothing and Everything," 1775-1785.

[42] Francis, "Interview with Pope Francis for the Radio of the Archdiocese of Rio (27 July 2013)."

[43] Francis, "Apostolic Exhortation *Evangelii Gaudium*" 210-215.

with their problems.[44] Christians are therefore called to "to speak for the voiceless, to defend the defenseless."[45]

In Search of Metamorality

So far, we have been discussing Greene's neuroscientific argument against the Principle of Double Effect. Nevertheless, Greene is primarily a philosopher and his ambition is foremost to promote utilitarianism. This goes hand in hand with his attack on deontological ethics, represented by Emmanuel Kant and human rights.[46] In *Moral Tribes*, Greene convinces his readers that utilitarianism is the best metamorality for the modern world and that deontology is nothing more than rationalization of our tribal morality.[47] He urges us to abandon policies based on terms such as rights, dignity, sanctity, or abomination and follow exclusively a deep pragmatism.

In order to make his point, Greene puts together a wide range of real and thought experiments, philosophical arguments and rhetorical figures.[48] It would be beyond the scope of this article to evaluate every bit of the argument. I will rather focus on the three organizing metaphors Greene uses to explain his chain of thought and argue that the research in neurosciences not only does not justify this kind metamorality, but it offers one more argument against it. In the second step, I will explore possible consequences for moral theology and its ability to reach to non-Christians.

From the Runaway Trolley to Common Currency

There are many metaphors for the dual process theory of which Greene prefers the dual mode camera.[49] Emotions correspond to the automatic mode of a camera:

[44] Francis, *"Encyclical Letter Laudato si"* 49.

[45] United States Conference of Catholic Bishops, "Economic Justice for All. Pastoral Letter on Catholic Social Teaching and the U.S. Economy" 16; Štica, "Globální solidarita v sociálním učení církve," 8-11; German Conference of Catholic Bishops and Evangelical Church in Germany, "Für eine Zukunft in Solidarität und Gerechtigkeit" 107.

[46] This inclination to utilitarianism and contempt of Kantianism is not rare in the literature on the edge of neuroscience and philosophy (Churchland, *Conscience: The Origins of Moral Intuitions*, 137-159, where the author criticises more of a caricature of Kant than Kant himself).

[47] In this context, it is difficult to understand Gibea's statement that Greene's type of experimental ethics does not "need to question any tradition" (Gibea, "Does Experimental Ethics Have a Normative Account?" 86).

[48] Steven R. Kraaijeveld and Hanno Sauer call *Moral Tribes* "a hodgepodge of different claims" and summarize its whole argument into a syllogism consisting of 26 statements to prepare the material for their criticism (Kraaijeveld and Sauer, "Metamorality without Moral Truth", 119-131).

[49] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 133.

they are fast, but less universal, offering solutions for situations that we faced in our lives or that humankind faced during evolution. In contrast, reasoning is slow, but universal—just as the manual mode. Neither type of cognition is necessarily better because each is suited for a different situation.[50]

Greene claims that the two modes in our brain are the key to the solution of two types of social problems.

The first of them can be summed up as "me *Vs*. us". It is the question of the common good within a tribe, whether the tribe is a social group based on kinship (traditional societies) or on political orientation (western countries). Within our tribe, our "automatic" response tends to be more altruistic than the "manual" one. According to the evolutionary explanations, societies scoring more in altruism (within the group!) were more cooperative, and so they gained an advantage in competition with other societies and outnumbered them. To illustrate this, Greene uses his second metaphor, namely the metaphor of herders sharing a common pasture: if everybody looks after his or her own interests only, each herder tries to add as many sheep as possible, until the moment when there are more animals than the pasture can support and everybody ends up being worse off. Therefore, the automatic settings make us cooperative to secure the *tribal* common good. An innate inclination to cooperate is the solution to the "tragedy of the commons".

Unfortunately, the same morality cannot solve the clashes among tribes. On the contrary, it even contributes to the problem, because it has evolved to provide an advantage in the intergroup competition.[51] Certainly, the automatic responses must be partially universal, but they are also partially dependent upon personal and tribal experience in order to establish boundaries between clans. Greene calls this the tragedy of commonsense morality: common sense works only within a tribe, not between tribes. Luckily enough, humans also have the "manual mode" suited for adaptive behavior.

This manual mode is nothing else then moral philosophy. There are, however, various kinds of moral philosophies and not each of them is, in Greene's view, equally suited for the tragedy of commonsense morality. Aristotle's virtue ethics is a mere

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[50] As with any metaphor, it brings about the danger of over-simplification, because the manual mode can work without the automatic one, but emotions are crucial for the function of our reason. This is why people with ventromedial prefrontal cortex damage are unable to lead a normal life and make "rational" decisions despite performing well on cognitive tests. In the description of brain malfunctioning, Greene is dependent on Antonio Damasio's influential book *Descartes Error*. Damasio's analysis was, however, heavily criticized by others, e.g. Kotowicz, "The Strange Case of Phineas Gage," 115-131. For another examples of brain damage and its influence on behavior, see Petrů, *Fyziologie mysli. Úvod do kognitivní vědy*, 263-264; and Slavkovský, *Racionalita a ľudská kognícia*, 53-56.

[51] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 26.

description of his tribal morality, whereas Kant's deontology represents a mere ratio-nalization of it.[52] They are all tribal moralities and their universality is based only on the alleged superiority of their tribe. In fact, each tribal morality is necessarily based on tribal values, and therefore Greene suggest a common currency to trade-off these values. The ideal candidate for it is happiness, whereas the trade market is called utilitarianism.[53] As stated earlier, Greene does not claim that utilitarianism is the final moral truth.[54] On the contrary, he denies access to the final moral truth and therefore emphasizes the need to put up with what works best in our pluralistic society, and that is utilitarianism.

How does this metamorality work? Greene explains this using the example of the abortion debate.[55] In the first step, he argues that both pro-choice and pro-life arguments are based on human rights, and as such depend on intuitive deontolog-ical judgements, which are not universally accepted. "When pro-lifers declare with confidence that a fetus has the 'right to life,'"—concludes Greene trying to maintain impartiality—"they, like their pro-choice counterparts, are just bluffing, pretending that they have a coherent argument when in fact they have only strong feelings and unsubstantiated assumptions."[56] In the second step, Greene considers pro-life and pro-choice *utilitarian* arguments. He concludes that the former are too good (i.e. too strong to be put into practice) whereas the latter are "just plain good."[57] Therefore, the deep pragmatist must go pro-choice.

The utilitarian analysis is expected to be as impartial as a free market, but free markets are not always as free as liberal economists would like us to believe (speaking of economics, it is noteworthy that Greene started his university studies at the Wharton School of Business). Messer aptly comments that Greene's utilitarian analysis reflects only particular moral values, namely well-being according to western standards. Moreover, it applies only to those individuals, who are "at a stage of development when they can have sex lives, life plans, etc.".[58]

Thus he concludes, "Greene's attempt to promote utilitarianism as a meta-morality looks more like a land-grab by one moral tribe than a tribe-neutral way of

[52] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 329.

[53] Ibid., 161.

[54] Ibid., 188.

[55] Concerning the vain effort to hold a neutral position in the question of abortion, see Sandel, *Justice. What's The Right Thing to Do?* 251-253.

[56] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 317.

[57] Ibid., 326.

[58] Messer, *Theological Neuroethics. Christian Ethics Meets the Science of the Human Brain*, 66.

enabling everyone to coexist on the new pastures."[59] Greene's pro-choice position is not, however, just an outcome of hidden assumptions or plain coincidence. His meta-morality is unavoidably inclined to liberal positions and cannot therefore function as an arbiter between liberalism and conservativism. In order to understand why, we need to look closer at the "automatic mode" and the way it functions.

Here it is necessary to present briefly the research of the American social psychologist Jonathan Haidt submitted in his 2012 book *Righteous Mind*. Haidt was curious as to why people consider certain behavior immoral even though no harm is inflicted. His research led him to a moral foundation theory, according to which there are at least five moral foundations which can explain the differences in moral values across cultures and political ideologies. He uses the metaphor of taste: just as we have five taste receptors on our tongue, we have also a limited number of moral receptors in our brain sensitive to care/harm, fairness/cheating, loyalty/betrayal, authority/subversion and sanctity/degradation.[60]

This theory is especially apt when analyzing the American political scene: whereas conservatives use all the triggers, liberals focus predominantly on the care/harm distinction.[61] Note that the utilitarian rule, "maximize happiness, minimize suffering" is nothing else than the care/harm foundation. By reducing morality to this sole foundation, utilitarianism must give the same results as liberal morality. Or vice versa, by excluding loyalty, authority and sanctity, utilitarianism excludes the core of conservative morality.

Christian Alternatives

What does this all mean for Christian ethics? Neil Messer sees in Greene an unexpected ally, because the "theological perspective will share Greene's suspicion of rights language and other deontological approaches." Nevertheless, he criticizes Greene for not being radical enough, for not also extending this suspicion to utilitarianism.[62] Messer develops here Dietrich Bonhoeffer's theological suspicion of ethics, because ethics, as a purely human project, echoes Adam's desire to know good and evil. Bonhoeffer sees the mission of Christian ethics to be the critique of all ethics, of the human enterprise,

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[59] Ibid., 65.

[60] Haidt, *Righteous Mind. Why Good People Are Divided by Politics and Religion*, 125.

[61] Ibid., 138.

[62] Messer, *Theological Neuroethics. Christian Ethics Meets the Science of the Human Brain*, 64.

of the "'disunion and estrangement' from the 'origin' in which human beings 'know nothing but God alone'."[63]

Obviously, the Catholic position must go a different way. In this final section, I will compare the presuppositions, goals and strategies as presented by Greene and by Catholic moral theology: how can we know the moral truth, what is the goal of ethics and how can we reach this goal. As a referential point, I will use the International Theological Commission document *In Search of a Universal Ethic*.

The fundamental presupposition that divides Greene's position from Catholic moral theology is the attitude towards moral truth. Greene does not deny it altogether, but he remains skeptical that we could recognize it. "What really matters" —he says—"is whether we have direct, reliable, nonquestion-begging access to the moral truth."[64] By demanding the highest level of certainty, he excludes moral truth from the discussion.

The Christian theological tradition knows two sources of moral truth: the Covenant and natural law. The biblical Covenant, which is basically a kind of contract theory, is deeply connected to biblical thinking.[65] God is not only the Creator of the universe, but he also reveals his will in several covenants he establishes with humankind. On the one hand, the Covenant with Noah is universal, but it forbids only shedding blood (Gen 9:5). On the other hand, the covenant from Sinai contains the entire moral code, but it has only been established with Israel. Nevertheless, in Isaiah (and John's) eschatological vision, all nations will stream to Mount Zion to learn the Torah, to learn how to live together in peace (Isa 2,2-5; cfr. Rev 21,24-26). This eschatological vision means that God's law is the universal moral truth, but the universal acknowledgement of it remains a promise. Or to put it the other way around, the Covenant is a genuine source of moral truth, but only for those who became believers.

The situation of the natural law is different. The concept goes back to the discussions among Greek philosophers in the fifth century BC about the relationship between *physis* (nature) and *nomos* (law, convention, custom).[66] Aristotle stresses in his *Rhetoric* that justice and injustice are defined in relation to *nomoi* of which we know two kinds: the particular *nomos* is established by a certain group for itself, whereas

[63] Ibid., 58.

[64] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 188.

[65] Rosenberger, *Frei in Leben: Allgemeine Moraltheologie*, 83.

[66] Plato, *Gorgias* 483c-484b; Moulton, "Antiphon the Sophist, on Truth," 329-366.

the universal *nomos* is based upon nature.[67] In other words, a rhetorician can built his argument either on local laws and conventions, or on universally accepted natural rules.

The idea of natural law was further developed by the Stoics, who started their universal ethics with the question, "How can I live a good life?" and answered, "Live according to nature." Such a notion was close to Paul's universal claims in the letter to the Romans that all nations have God's law engraved on their hearts (Rom 2:15). This enabled Christians to accept natural law as its universal ethics—not because it would be so close to biblical thinking, but because it gave them the opportunity to reach out to pagan culture. As the International Theological Commission document on natural law points out, "Christianity does not have the monopoly on the natural law."[68] Instead, it is "founded on reason, common to all human beings,"[69] and therefore serves as the basis for collaboration among nations. It is certainly difficult to use the natural law in concrete arguments and avoid all the pitfalls connected with the concept.[70] Nevertheless, this does not mean that the concept is wrong or useless, that we cannot use it wisely with some profit.

The possibility to access moral truth is not the only disagreement between Greene and the Catholic moral tradition. Equally important is the question as to what is the goal of ethics. Greene defines morality as "a collection of devices, a suite of psychological capacities and dispositions that together promote and stabilize cooperative behavior."[71] Morality is about cooperation, because cooperation brings about profit. In contrast, Christian ethics is essentially character ethics. It is not the rules, what lies in its core, but the example of Jesus Christ. The Christian goal of life is to become a good (or virtuous) person, to let God turn us into his image. Rules can be better or worse, but only a human person can be truly virtuous.

If there are different starting points and different goals, it is not surprising that both sides go different ways. Greene distinguishes between two types of moral problems: "Me *Vs*. us" and "us *Vs*. them". The first one can be solved by an evolutionarily and culturally pre-programmed "automatic mode" in our brain. For the rest,

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[67] Aristotle, "Rhetoric" 1,13,2 (1373b).

[68] International Theological Commission, "In Search of a Universal Ethic. A New Look at the Natural Law" 9.

[69] Ibid.

[70] For examples, see Ovečka, *"Člověče, bylo ti oznámeno, co je dobré…". Česká katolická morální teologie 1884-1948*, 117-127; Ovečka, "Dynamické pojetí přirozeného zákona a česká teologická tradice," 193-195.

[71] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 28.

we need to use our adaptive device, a "manual mode" judging according to a deep pragmatism.

The "me *Vs.* us" domain encompasses, however, only the obligation of an individual to behave more altruistically. Although Greene explains the "us *Vs.* them" distinction using the divisions among world cultures and among the main political ideologies in the USA, it is applicable to all social issues. Whenever a group is divided into two parties, their controversies should be settled upon utilitarian principles. Apart from personal altruism, there is no room for ordinary morality. "This yields a moral philosophy" which Greene formulates aptly, "that no one loves but that everyone 'gets'—a second moral language that members of all tribes can speak."[72]

When the Catholic Church believes that it can recognize moral truth, is there any need for metamorality? In this point, there has been significant progress in the Church position over the last hundred years. In the nineteenth and first half of the twentieth centuries, the Catholic Church developed an approach of tolerance. According to Leo XIII, the Church, "while not conceding any right to anything save what is true and honest, she does not forbid public authority to tolerate what is at variance with truth and justice, for the sake of avoiding some greater evil, or of obtaining or preserving some greater good."[73]

The Fathers of the Second Vatican Council, however, used different words. They taught that "the human person has a right to religious freedom" and that "this right of the human person to religious freedom is to be recognized in the constitutional law whereby society is governed and thus it is to become a civil right."[74] This religious freedom is founded on human dignity and on the gift of reason and free will given by the Creator.[75] Each person has his or her own responsibility before God and a moral obligation to seek the truth. The Truth should be sought "with the aid of teaching or instruction, communication and dialogue, in the course of which men explain to one another the truth they have discovered, or think they have discovered."[76]

The truth, and also the moral truth, must be sought in dialogue. But what should this dialogue look like? We can distinguish between two levels of it, similar

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[72] Greene, *Moral Tribes. Emotion, Reason, and the Gap Between Us and Them*, 391.

[73] Leo XIII, "Encyclical Letter Libertas" 33.

[74] Catholic Church, "Declaration on Religious Freedom *Dignitatis humanae*" 2.

[75] Greene argues, however, that neurosciences undermine the concept of free will and thus the whole retributivist justification of punishment (Greene an Cohen, "For the Law, Neuroscience Changes Nothing and Everything," 1775-1776. For a critique of this assumption, see Rojka, "Variácie morálnej zodpovednosti," 151.

[76] Catholic Church, "Declaration on Religious Freedom *Dignitatis humanae*" 3.

to Greene's two types of moral tragedies. Within the Church, Christians share the same basic values: the conviction that there is a knowledgeable final moral truth and that the goal of morality is to become similar to Christ. Even though the faithful are divided similarly to US society, all Christians share their belief in God. This binds us in an inner dialogue not to make political deals about morality, but to seek the truth. We can take the Synod on Family as an example, because the division in the Church was especially striking there. Pope Francis urged the synod fathers in his introductory speech:

> …the Synod is not a parliament in which to reach a consensus or a common accord by taking recourse to negotiation, to deal-making, or to compromise: indeed, the only method of the Synod is to open oneself up to the Holy Spirit with apostolic courage, with evangelical humility and confidence, trusting prayer, in order that he guides us, enlightens us and makes us keep before our eyes, not our personal opinions, but with faith in God, fidelity to the magisterium, the good of the Church and the *salus animarum*.[77]

In the outer dialogue, the Church defends the above mentioned freedom of conscience including religious freedom. This does not mean anarchy, because civil society has its ways of agreeing upon public policies. In a state, it is usually the parliament where the debate takes place. Although there is always an outvoted minority in the end, their moral integrity should be respected (e.g. through conscientious objection).

There is no prefabricated solution, no magic algorithm to the truth. True metamorality cannot be one ethical theory that trumps the others, but a system that helps us to manage the diversity. As clearly stated in *Dignitatis humanae*, the Church wants to seek out the truth in dialogue.[78]

Conclusion

So are the decisions we enjoy also the best ones? The answer must be differentiated. Yes, if they express altruism. No, if these concern decisions about controversial topics. Dialogue can be painful, but there are no shortcuts.

If Greene's neuroscientific research is purified of its moral agnosticism and utilitarianism, it provides valuable insights into social problems. It helps us to understand better our blindness to side effects, a blindness that can only be corrected by an

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[77] Francis, "Synod for the Family 2015. Introductory Remarks."

[78] As Michael Sandel stresses, a just society cannot be achieved simply by maximizing utility or by securing freedom of choice. To achieve a just society, we have to reason together about the meaning of the good life, and create a public culture hospitable to the disagreements that will inevitably arise (Sandel, *Justice. What's The Right Thing to Do?* 261).

option for the poor. It also helps us understand better tribalism in the contemporary world. The proper response to this tribalism, however, does not consist of denial of all moralities except one. The proper response requires genuine and often troublesome dialogue. If nothing else, we should enjoy the challenge.

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