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On the Metaphysical Necessity of Suffering from Natural Evil

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Abstract

Why does God permit suffering in the world? If God is wholly good, omnipotent, and omniscient, why would He not intervene to prevent us from suffering? These are questions that pertain to the problem of evil: how to reconcile the existence of God with the evil occurrences of this world, without sacrificing any of His divine attributes. The most potent version of the problem of evil is a recent formulation known as the *evidential argument from evil*. The evidential argument states that while the existence of God is not logically incompatible with the fact that there are evil occurrences, there are particular instances of suffering that lower the probability that God exists altogether. In the most noteworthy formulation of the evidential argument, William Rowe designates these particular instances of suffering as *gratuitous suffering*: any sort of unnecessary or pointless suffering that a being could undergo and which serves no greater good. Rowe declares that gratuitous suffering counts as evidence against the existence of God. I intend to offer an explanatory defense of God in light of Rowe's evidential argument from evil. I will contend that no suffering is gratuitous and that Rowe's argument is unsound.

I. Introduction

The evidential argument from evil is an atheistic attempt to lower the probability that God exists by contending that particular instances of evil are evidence against God's existence. In his formulation of the evidential argument, William Rowe alleges that these occurrences are when creatures suffer gratuitously.¹ Although God is no longer assumed to be logically incompatible with the fact that there is evil,² God is considered to be incompatible with any instances of His creatures suffering gratuitously. The notion that gratuitous suffering is incompatible with the existence of God is not an atheistic claim, but rather is a theistic idea; God has the power to prevent all instances of gratuitous suffering because He loves His creatures enough to preclude them from pointless and unnecessary suffering.

Although gratuitous suffering can be [potentially] caused by instances of *moral evil*, which is harm that is brought about by the free actions of human beings, my direct focus will be on the [potential] gratuitous suffering that is effectuated by instances of natural evil.³ *Natural evils* [NE] are states of affairs that are brought about by natural processes for which living beings neither have

¹ William Rowe, "The Problem of Evil and Some Varieties of Atheism," *American Philosophical Quarterly* 16, no.4 (October 1979): 335-41.

² Alvin Plantinga has argued one of the most notable defenses to the logical problem of evil. Plantinga concluded that the possibility for human beings to do evil actions is a necessary condition for us to be able to do any moral actions at all. Due to Plantinga's free will defense, the logical problem of evil has taken a back seat to the evidential argument today. See Alvin Plantinga, *God, Freedom, and Evil* (Grand Rapids, MI: Eerdmans Publishing Co., 1978).

³ Nonetheless, I will indirectly address the suffering caused by moral evil in my investigation on natural evil. But, I will not claim that natural evil prevails as a consequence of original sin, punishment of any type of sin, due to the work of Satan, or that it's a side-effect of the free actions of demons.

control over nor are directly responsible for causing.⁴ We cannot eliminate NE from our environment as NE constitutes states of affairs that are independent of our agency.⁵ These natural states of affairs are ‘evil’ in the sense that they cause pain, suffering, and death to all living beings that have the capacity to experience such negative phenomena.⁶

In the ensuing defense of God, I will advance three fundamental declarations: (a.) that NE is a necessary condition for the existence of *any* being that has the potential to be [or already exists as] a morally free, intelligent, and sentient being;⁷ (b.) it’s metaphysically impossible for God to have brought about the existence of morally free, intelligent, and sentient beings [in any possible world] so that such beings could be immune from suffering from instances of NE; (c.) no suffering that is brought about by any instance of NE is gratuitous: all suffering is metaphysically necessary

⁴ NE can be divided into at least three major categories: *meteorological* [i.e. fire, flooding, landslides, cyclones], *geological* [i.e. earthquakes], and *biological* [i.e. pain, disease, viruses, birth defects, death].

⁵ Although humans do not have the power to ‘create’ natural processes, in the sense of bringing them into existence, we can ‘instigate’ natural states of affairs through interacting with our natural environment. These natural states of affairs have the potential to eventually harm others, and are considered instances of NE if they harm others. However, when we incite natural states of affairs through our behaviors and pursuits, this is better categorized as moral evil than as NE.

⁶ Whenever I use the word ‘suffering’, I intend to convey a general representation of all negative effects that occur to living beings due to NE; anything that brings explicit attention to the fallibility of our material bodily existence. These negative effects that are induced by instances of NE include physical pain, psychological suffering, and natural death [although these effects are not exclusive to being caused by NE, and can be also brought about by instances of moral evil].

⁷ Morally free, intelligent, and sentient beings include human beings, but are not limited to human beings. In my defense of God, I will not exclude the potential suffering of non-human animals [especially non-human mammals] from consideration. If I can provide sufficient justification for the suffering of human beings, then any concern for the suffering of non-human animals, which are most similar to humans, will follow in my vindication of God.

for the existence of morally free, intelligent, and sentient beings. If I can demonstrate these three fundamental claims, then Rowe's evidential argument would fail to provide sufficient evidence against the existence of God.

II. Rowe's Evidential Argument from Evil

Rowe presents his argument as follows:

- (1) There exist instances of intense suffering which an omnipotent, omniscient being could have prevented without thereby losing some [un-replaceable] greater good or permitting some evil equally bad or worse.
- (2) An omniscient, wholly good being would prevent the occurrence of any intense suffering it could, unless it could not do so without thereby losing some [un-replaceable] greater good or permitting some evil equally bad or worse
- (C) Therefore, there does not exist an omnipotent, omniscient, wholly good being.⁸

Although Rowe does not define what he means by an "omnipotent, omniscient, wholly good being," whether or not his argument is sound does not depend on any specific definitions of these terms. Rowe's argument is logically valid, but I will argue that it's unsound: at least one of the premises is false. Rowe assumes that premise (2), known as the theological premise, is taken for granted by theists who believe that God would not permit any gratuitous suffering. Therefore, the soundness of Rowe's argument depends on the truth or falsity of premise (1).

I consider premise (1) to be false because God *could not* have prevented instances of 'intense suffering' *without thereby losing some greater good or permitting some evil equally bad or worse*. If God prevented instances of 'intense suffering', then the greater good that would be lost would be

⁸ Rowe, 336.

the existence of morally free, intelligent, and sentient beings. If God did not permit instances of ‘intense suffering’, then He would be permitting a worse evil: the non-existence of morally free, intelligent, and sentient beings. In my explanatory defense of God, I will demonstrate why premise (1) is false by evaluating Rowe’s language in the premise.

III. “Intense Suffering”

Rowe claims that ‘intense suffering’ entails gratuitous suffering. Yet, how would an experience of ‘intense suffering’ differ from an experience of ‘non-intense suffering’? This is a question that Rowe fails to address in his argument. Rowe is able to claim that ‘intense suffering’ involves gratuitous suffering because he, like anyone, can make value judgments about various phenomena.

All suffering can be judged in terms of whether one views the suffering to be either necessary or gratuitous. The suffering brought about from a particular instance of NE is judged to be *necessary* if one believes that some “greater good” is intimately connected to that suffering. Furthermore, one believes that the “greater good” could not have been actualized without the particular instance of NE occurring. The suffering brought about from a particular instance of NE is judged to be *gratuitous*, “if it is such that [God] could have prevented it without thereby having prevented the occurrence of some greater good.”⁹ Additionally, one can make a judgment that the suffering is gratuitous if one sees no good reason for why the suffering is necessary for a “greater good”; one believes that the “greater good” could have been achieved without the occurrence of the particular instance of NE.

⁹ William Hasker, “The Necessity of Gratuitous Evil,” *Faith and Philosophy* 9, no.1 (2009): 24.

IV. “Greater Good”

Rowe’s argument depends on how ‘greater good’ is interpreted. According to Rowe, a greater good does not need to “follow in time” from an occurrence of NE.¹⁰ That is, a greater good does not need to occur subsequently, or after one suffers from an instance of NE. In a theistic framework, the suffering brought about from NE is typically viewed as “spiritual development” towards a greater end. Theists tend to infer ‘greater goods’ as benefits that one receives *after* enduring an instance of NE. In particular, there is an expectation by many theists that individuals will be united with God in Heaven post-suffering. This theistic understanding of ‘greater good’ is based on the notion that ‘goods’ follow ‘evils’ either in time or as a means to an end.

For all I know, union with God in Heaven is a ‘greater good’ that an individual attains post-suffering. Yet, this subsequent greater good has a truth-value that can neither be known in this life, nor can it justify the suffering experienced in this life for the very reason that its truth is unknown. Such post-suffering expectations of greater goods that “follow in time” do not provide theists with a sufficient justification of God in light of Rowe’s evidential argument from evil. This being the case, I will suggest an *antecedent good* that justifies God in permitting NE, and that undermines the soundness of Rowe’s argument. Additionally, this antecedent good is a greater good that renders all suffering related to NE as metaphysically necessary, and makes it impossible for any suffering related to NE to be gratuitous.

There are three essential conditions that must obtain in order for this antecedent good to be true. First, this antecedent good must be a “patient-centered good.”¹¹ This means that when

¹⁰ Rowe, 336n3.

¹¹ Nick Trakakis, *The God Beyond Belief: In Defense of William Rowe's Evidential Argument from Evil* (Netherlands: Springer, 2010), 236.

there is a single individual, or multiple individuals, who suffer from a particular instance of NE, each individual who suffers from that instance of NE, must personally receive some benefit for the very fact that they suffered. Secondly, this antecedent good must be a good that justifies God in permitting any number of particular instances of NE, which bring about the suffering of a single or multiple individuals. Lastly, this antecedent good must be *un-replaceable*, so it could justify God in such a way that He could not have actualized this good without having to permit any number of particular instances of NE to occur, which bring about the suffering to individuals.

For example, if an individual named Eden dies in a sinkhole, this would be an instance of NE. Let's suppose that Eden's death prompts her community to unite together in light of the tragedy. The community is so overwhelmed by Eden's death that they petition the government to hire the best scientists in the world to research sinkholes. Amazingly, these scientists succeed in devising a sinkhole monitoring system that is 99.99% accurate at detecting sinkholes before they occur. As a direct result, millions of lives are saved all around the world by this sinkhole technology. The technology is appropriately named the *EdenSH1*, in honor of the original victim that brought about the call for change.

Would we say that Eden was used as a means to the end of every person who benefited from the *EdenSH1* technology? Was Eden sacrificed for humanity's "greater good"? No, as Eden did not receive any subsequent greater good from dying in the sinkhole [that we know of]. Although Eden may have gone to Heaven, and humanity may have benefitted from the *EdenSH1* technology, neither of those "greater goods" would justify God in permitting Eden's death in the

first place.¹² Hence, the theist cannot argue that there is a subsequent greater good [i.e. community benefiting from the death of an individual], or a subsequent patient-centered good [i.e. individual going to Heaven], that would justify God in allowing an individual to suffer from a particular instance of NE for the sake of *that* subsequent greater good.

For these reasons, “greater good” must be interpreted as an *antecedent, un-replaceable, patient-centered good*: a good that an individual receives prior to suffering, and which justifies God in permitting the individual to suffer.¹³ Before I elucidate what I take this antecedent, un-replaceable, patient-centered good to be [precisely], I will consider whether or not God could have created a world without NE [in the first place]. If God could have created a world without NE, then Rowe’s argument will turn out to be sound.

V. Twin-Earth: a World Without NE

God can create any number of possible worlds without NE. Nevertheless, if God has the intention to create a world with morally free, intelligent, and sentient beings, then He *has to will* a

¹² On the contrary, if theists were to maintain that the greater good occurring from Eden’s death was that Eden was united with God in Heaven, and that humanity received the *EdenSH1* technology, such subsequent, patient-centered goods would actually provide atheists with the opportunity to reasonably deem Eden’s death as gratuitous, as both ‘goods’ are replaceable. Although union with God in Heaven would be a patient-centered good for Eden, it’s an unknown good, and requires appealing to an expectation that is based almost entirely on revealed truth.

Nonetheless, should theists continue to appeal to subsequent, unknown greater goods in attempting to provide a defense of God, this would inadvertently portray Eden’s death as gratuitous. God would be represented as a utilitarian who utilizes suffering as a means to a ‘good’ end, which is unknown to be true, but is believed to be true by faith.

¹³ By interpreting “greater good” in this way, the atheist is unable to deem any instances of NE as gratuitous. Moreover, such an understanding of greater good incorporates particular instances of NE, such as Eden’s death, which many theists are unable to account for in traditional theodicies that amount to ‘soul-making’.

world that necessarily corresponds to His intention.¹⁴ In order to bring about the existence of morally free, intelligent, and sentient beings, God would need to will a world into existence that could maintain the existence of such beings. Bruce Reichenbach argues that if God has the intention to bring about the existence of any beings that are morally free, intelligent, and sentient, then God has only one option in creating a world to sustain their existence.¹⁵ God's choice in possible worlds to maintain the existence of such beings for such beings is this world, Earth; or a world exactly identical to Earth, with its orderly natural laws, which have the potential to bring about NE.

Reichenbach entertains a second possible world that God has the power to freely create, but cannot create if His intention is to bring about a world that maintains the existence of morally free, intelligent, and sentient beings. This second possible world, one that operates based on consistent or continuous divine intervention [miracles], is incompatible with the existence of morally free, intelligent, and sentient beings.¹⁶ The reason why this world is not a possibility is because such a world would jeopardize one's belief in cause and effect relationships, and make "rational action" unable to occur.¹⁷

A third possible world is one in which natural laws could not produce suffering to its inhabitants. However, Reichenbach deems such a world to be an impossible world when it comes to the existence of morally free, intelligent, and sentient beings. Reichenbach concludes that

¹⁴ This does not imply a limitation to God's power, since God's omnipotence is the unlimited ability to do the logically or intrinsically possible, which does not imply contradictions.

¹⁵ Bruce Reichenbach, *Evil and a Good God* (New York: Fordham University Press: 1982), 118.

¹⁶ *Ibid.*, 103.

¹⁷ *Ibid.*

neither a world with natural laws that could not produce suffering, nor a “world that operated according to divine miraculous intervention,” could maintain the existence of morally free, intelligent, and sentient beings.¹⁸

This leads Reichenbach to challenge atheists to demonstrate how God could have created a world without NE, or a world that differed in the quality or quantity of NE. That is, Reichenbach invites atheists to, “construct the proffered better system of world-constituents and natural laws and show what the complete entailments of both that one and the present world are with respect to natural evil.”¹⁹ Nevertheless, atheists are in no position to “design” a different world system than our current one; such a task is unfeasible for any finite beings, atheists or theists.

Nevertheless, Nick Trakakis believes that Reichenbach is mistaken in his categorization of possible worlds. According to Trakakis, God could have created a world in which He designed the natural laws to *not* produce suffering to morally free, intelligent, and sentient beings. Not only does Trakakis imagine that such a world is a possible world, but such a world is a “better world” than Earth. Trakakis names this “better world”, *Twin-Earth*. Twin-Earth would have natural laws that are designed to better accommodate human beings. Yet, Trakakis admits that Twin-Earth’s “human beings” would not be identical to human beings on Earth; they would be “beings resembling humans in that they are free creatures capable of growing morally and spiritually.”²⁰

On Twin-Earth, God would not need to perform any miracles to rescue these “human beings”. God would design Twin-Earth in such a way that “human beings” would be spared from any suffering produced by naturally occurring states of affairs. Hence, there would be no such

¹⁸ Ibid., 103, 112.

¹⁹ Ibid., 118.

²⁰ Trakakis, 290.

concept as 'NE'; it would be impossible for these "human beings" to be harmed by the natural laws. The "human beings" on Twin-Earth would not be causally affected by their natural environmental, but they would still [somehow] reside in nature.²¹ On Twin-Earth, there would be no accidental deaths because the laws of nature would respect the "human beings" that live there.²² On Earth, we have expectations to be rescued from harm, which allows us to be disappointed when we are not rescued. However, the laws of nature on Twin-Earth would solve this problem: there would be no expectations of being rescued from harm since being rescued from harm would just be 'natural'.

Trakakis states that because "human beings" on Twin-Earth would be of no less value than human beings on Earth, and since there's no reason to believe that Twin-Earth would be worse than Earth, there's no sufficient reason for why God would not have created Twin-Earth instead of Earth.²³ Trakakis adds that Twin-Earth is better than Earth, and because we do not live on a world like Twin-Earth, this lowers the probability that God exists.

If a world like Twin-Earth is indeed possible, then Rowe's argument is sound, because God could have created Twin-Earth instead of Earth. Thereby, God could have prevented particular instances of NE from producing suffering to individuals, which is considered 'gratuitous' [since there are no instances of NE on Twin-Earth]. In order to show that Trakakis' Twin-Earth example fails, I will first set up my own argument, which will ultimately establish the falsity of premise (1) of Rowe's argument.

²¹ Ibid.

²² Ibid., 294-5.

²³ Ibid., 290.

VI. On the Necessity of Natural Evil

In order to ensure the falsity of Rowe's premise (1), I must find a way to make it so that no single instance of suffering from any occurrence of NE could be possibly deemed 'gratuitous'. In order for premise (1) to be false, all suffering from NE must be necessary for a greater good, which must be interpreted as *an antecedent, un-replaceable, patient-centered good*.

If NE is required for *some good, P*, then NE is necessary for P, and God is justified in permitting NE for the sake of P. However, Rowe would contend that if NE is not required for P, and having P by itself is better than having P co-occurring with NE, then the co-occurrence of P with NE would be *replaceable* by the greater good of P alone [independent of NE]. Therefore, I must demonstrate that NE is necessary for P, and that P is an un-replaceable greater good, which cannot occur without NE.

I will present an argument for why NE is necessary for P, which justifies God in permitting suffering that is brought about by NE. Before I present my argument I will stipulate the following terms:

[NE]: States of affairs that are brought about by natural processes, and affect all living beings that have the capacity to experience such negative phenomena (*viz.* pain, suffering, death).

[P]: An antecedent, un-replaceable, patient-centered good: the existence of morally free, intelligent, and sentient beings.

[SL]: The Second Law of Thermodynamics (*viz.* the increase of entropy/disorder).

My argument is as follows:

(1) NE affects all morally free, intelligent, and sentient beings.

(2) NE is an inevitable by-product of SL.

(3) SL is a necessary condition for P.

(C) Ergo, the possibility for the occurrence of NE is a necessary condition for P.

In order to make my argument more clear, I will first explain premise (3): *in what sense* SL is a necessary condition for P. For SL to be a necessary condition for P, this means that it is impossible to have P without having SL. In other words, there are no possible worlds in which morally free, intelligent, and sentient beings can exist without SL being true: the absence of SL guarantees the absence of P.

SL describes the behavior and direction of energy in the entire cosmos; it is the tendency for concentrated energy to spread out and dissipate, becoming less useful each time that it is transferred or transformed. SL is, “the inevitable tendency of [ordered] systems... to become more disordered, to return to a more probable, simpler, less intricate or ordered state.”²⁴ Furthermore, SL is a necessary reason for Earth to function as it does, “the entropy, the measure of disorder, in any thermally isolated system must either remain the same or increase in any process or change... without the continual injection of energy or material – or nourishment – any system tends to run down or undergo eventual dissolution.”²⁵

Robert John Russell describes the double-edged effect of SL as a necessity for life [‘a good’],

²⁴ William R. Stoeger, “Entropy, Emergence, and the Physical Roots of Natural Evil.” In *Physics and Cosmology: Scientific Perspectives on the Problem of Natural Evil* (Vatican Observatory Foundation, 2007), 98.

²⁵ *Ibid.*, 96.

but also as that which brings about NE as an inevitable by-product ['an evil'].²⁶ Although SL has the potential to bring about NE, William Stoeger maintains that NE is “the entropic price demanded” for life.²⁷ SL may be considered ‘a good’ because it provides Earth with the necessary conditions for not only maintaining the existence of simple biological life, but also the necessary conditions for supporting the existence of complex life forms.

While Trakakis calls Twin-Earth a “better world”, inasmuch as there would be no NE, Twin-Earth turns out to be an impossible world for the existence of any morally free, intelligent, or sentient beings. This is because Twin-Earth would not have NE. Any world that does not have NE could not have SL, as NE is a necessary side-effect of SL [as stated in my premise (2)]. Hence, any world [such as Twin-Earth] that does not have SL, and subsequently does not have NE, could not sustain the existence of human beings, or any morally free, intelligent, and sentient beings.

Without SL operating in the exact way that it does, solar heating would not be sufficient enough to sustain complex forms of life. This is because SL is a necessary prerequisite for complex, intelligent, and biological life.²⁸ If SL was reversed or altered, then human beings would lack the ability to make any “intelligent predictions regarding the future status of any given behavior.”²⁹ This is due to the fact that SL is what helps ground one’s perception of temporal reality, and provides one with “the unidirectionality of time.”³⁰

²⁶ Robert John Russell, “Entropy and Evil: The Role of Thermodynamics in the Ambiguity of Good and Evil in Nature,” In *Cosmology: From Alpha to Omega* (Minneapolis: Fortress Press, 2008), 236.

²⁷ Stoeger, 93.

²⁸ Michael A. Corey, *Evolution and the Problem of Natural Evil* (Lanham, MD: University Press of America, 2000), 302.

²⁹ Ibid.

³⁰ Ibid.

The sequential and irreversible flow of time is made possible by SL, and allows one's mind to be associated with states of affairs in the external world.³¹ Without this association between one's mind and the external world, there would neither be a capacity to retain knowledge nor a potential to develop expectations that are gained through perception of phenomena in extramental reality. Such a disassociation between one's mind and the external world would invalidate one's capacity to utilize mathematics, science, and other higher forms of knowledge. Without SL operating as it does, there would be no morality, imagination, memory, or reason.³² Because the rationality of morality is dependent on the natural order of the external world, the possibility for moral evil comes about from the possibility for NE to occur.

VII. Conclusion

In my analysis of the evidential argument from evil, I have attempted to demonstrate how the necessary preconditions for the existence of morally free, intelligent, and sentient beings invalidate the possibility of gratuitous suffering. Although there may not be a greater good occurring *after* an instance of NE [that we can be certain of], the greater good that precedes all instances of NE is this: it's greater to exist as a morally free, intelligent, and sentient being than to *not* exist as such a being. If God prevented any or all instances of NE, then He would be permitting a lesser good and a greater evil: the non-existence of morally free, intelligent, and sentient beings. The non-existence of such beings would be a greater evil, as God has the power to bring such beings into existence, and if He decided not to bring about the existence of such beings, then He would be appropriately regarded as neither wholly good nor omnipotent.

³¹ Ibid., 303.

³² Reichenbach, 103-4.

Accordingly, atheists have no sufficient reason to regard any suffering as gratuitous. The greater good that is intimately connected to NE is an antecedent, un-replaceable, patient-centered good: the existence of morally free, intelligent, and sentient beings. This greater good is made possible by the fact that such beings *need* to suffer from NE. Although, every instance of NE is a necessary occurrence, this does not negate the fact that morally free, intelligent, and sentient beings experience 'intense suffering'. The 'intense suffering' that is experienced by morally free, intelligent, and sentient beings is *real suffering* that harms them, but it's not gratuitous suffering as Rowe claims.

Any 'intense suffering' of morally free, intelligent, and sentient beings is also *metaphysically necessary suffering*: God could not have brought about the existence of such beings without the possibility of them experiencing this 'intense suffering'. Therefore, Rowe's premise (1), the pivot on which his argument turns, may be disavowed: sufficient grounds have been established, which justify God in permitting the suffering that is brought about by NE.

Works Cited

- Corey, Michael A. *Evolution and the Problem of Natural Evil*. Lanham, MD: University Press of America, 2000.
- Hasker, William. "The Necessity of Gratuitous Evil." *Faith and Philosophy* 9, no.1 (2009): 23-44.
- Reichenbach, Bruce R. *Evil and a Good God*. New York: Fordham University Press: 1982.
- Rowe, William. "The Problem of Evil and Some Varieties of Atheism." *American Philosophical Quarterly* 16, no.4 (October 1979): 335-41.
- Russell, Robert John. "Entropy and Evil: The Role of Thermodynamics in the Ambiguity of Good and Evil in Nature." In *Cosmology: From Alpha to Omega*, 226-48. Minneapolis: Fortress Press, 2008.
- Stoeger, William R. "Entropy, Emergence, and the Physical Roots of Natural Evil." In *Physics and Cosmology: Scientific Perspectives on the Problem of Natural Evil*, 93-108. Edited by Nancey Murphy, Robert John Russell, William R. Stoeger. Vatican Observatory Foundation, 2007.
- Trakakis, Nick. *The God Beyond Belief: In Defense of William Rowe's Evidential Argument from Evil*. Netherlands: Springer, 2010.