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Editors' Introduction

The staff of *Logos* is proud to present the twelfth volume of Cornell University's undergraduate journal of philosophy. After carefully considering the submissions we received over the past year we have selected an exemplary set of four articles chosen for their creativity, cogency, and depth of philosophical inquiry.

This year's selection pool was full of quality submissions, and we received inquiries from over fifty undergraduates situated across the English-speaking world. All of the papers contained within this volume were carefully reviewed and selected because of their exceptional quality and varied subjects. The twelfth volume of *Logos* features papers whose topics fall under the headings of philosophy of religion, aesthetics, Wittgenstein, and political philosophy. We are delighted to be able to publish such a broad set of articles while bringing the best new undergraduate work to public view.

We would like to thank and acknowledge the authors of our chosen submissions: Joseph Taylor for his submission entitled "A CORNEA Puzzle," Aaron Suduiko for his submission entitled "Understanding Quantum Mechanics and the Significance of the Player in Bioshock Infinite," Joshua Pitkoff for his submission entitled "Wittgenstein's Tractatus on Solipsism, Realism, and Nonsense," and Ryan Mak for his submission entitled "On Political Obligations of Refugees."

Noam Weinreich
Editor-in-Chief

A CORNEA Puzzle

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I. INTRODUCTION

A popular variety of skeptical theism—CORNEA-style skeptical responses to evil—undermines "appears that" arguments that result in belief in God. But we must first familiarize ourselves with the historical and theoretical background of philosophical approaches to what is perhaps the most disconcerting question facing any reflective person considering the cogency of theism:

> If there exists an omniscient, omnipotent, and omnibenevolent God, then why is there so much evil in the world?

Presumably, if God is omniscient, then He knows about evil.[1] If God is omnipotent, then He can prevent evil. If God is omnibenevolent, then He wants to prevent evil. But evil exists, in abundance. Hence, either God does not exist or He is lacking one of His essential attributes.[2] This line of reasoning is often referred to as the "logical problem of evil."[3] There is another similar, but distinct argument called the "evidential problem of evil."[4] There are many variations, but it may roughly be defined as follows: The presence and amount of evil in the world is evidence that God probably (some claim certainly) does not exist.

Some contemporary philosophers consider "skeptical theism" to be a cogent response to the evidential problem of evil. Perhaps the best general definition comes from Michael C. Rea, who considers the "central skeptical thesis of skeptical theism" to be:

> No human being is justified (or warranted, or reasonable) in thinking the following about any evil *e* that has ever occurred: there is (or is probably) no reason that could justify God in permitting *e*.[5]

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[1] I refer to God as "He" largely because of convention. If the reader is so inclined, s/he may replace "He" with "She" or "It."

[2] Some theists deny or qualify one or more of God's attributes in response to evil and other philosophical problems, but most agree that all three attributes are of the utmost importance to theism. This is why I use the word "essential." One may read it as "purportedly essential."

[3] J.L. Mackie, "Evil and Omnipotence." *Mind* 64, no. 254 (1955): 200-12. I will not be discussing Mackie's argument further, because most theists consider Alvin Plantinga to have (or, at any rate, come as close as an analytic philosopher can) solved the problem. See: Alvin Plantinga, *The Nature of Necessity* (Oxford: Oxford University Press, 1974), 164-195. For a simplified account, see" Alvin Plantinga, *God, Freedom, and Evil* (Michigan: William B. Eerdmans Publishing Company, 1977), 7-59. I am not completely convinced that the logical problem of evil is untenable, but there is not room in this paper to address such matters. For those who are interested, J.L. Schellenberg has recently attempted to reformulate the logical problem of evil in an interesting (if ultimately unsuccessful) essay. See: J.L. Schellenberg, "A New Logical Problem of Evil," in *The Blackwell Companion to the Problem of Evil*, eds. Justin P. McBrayer and Daniel Howard-Snyder (Singapore: Wiley Blackwell, 2013), 34-48.

[4] Often used interchangeably with "evidential argument from evil." The evidential problem of evil is the focus of most contemporary scholarly work on what is generally labelled "*the* problem of evil." As Michael W. Hickson suggests, "*problems* of evil" is probably a better title. See: Michael W. Hickson, "A Brief History of Problems of Evil," in McBrayer and Howard-Snyder, *Blackwell Companion*, 3-18.

[5] Michael C. Rea, "Skeptical Theism and the 'Too Much Skepticism' Objection," in McBrayer and Howard-Snyder, *Blackwell Companion*, 483. It is important to note that skeptical theism is not easily defined, and, as a result, various philosophers have characterized it in different ways. Rea discusses this problem in his article.

There are two important characteristics of skeptical theism. The first is the affirmation of theism, that is—at a minimum—God exists, created the world, and is omniscient, omnipotent, and omnibenevolent. Second, there is the *skeptical* part of skeptical theism, which is intended tacitly or explicitly as a *qualified* skepticism. An important aspect of this skepticism is modesty about the finitude and fallibility of human beings. That being said, the skeptical theist will certainly admit that despite our limitations, we have acquired a considerable amount of knowledge about the world, including some knowledge about what is good and bad, and what is right and wrong. Nevertheless, the scope of our knowledge is undeniably miniscule vis-à-vis an omniscient being. We may *think* that we see gratuitous evil in the world, but, for all we know, there are reasons beyond our ken that might justify God in permitting such evil. This is not to say that we could *never* recognize a gratuitous evil, but skeptical theists have been coy about identifying necessary and/or sufficient conditions for recognizing a gratuitous evil.[6]

II. Rowe's Evidential Argument from Evil

Virtually all contemporary discussions of skeptical theism can be attributed to a 1979 article by William Rowe.[7] There have been many subsequent alterations and reformulations of Rowe's evidential argument from evil (by Rowe himself and other philosophers); however, Rowe's initial formulation is still the version most frequently discussed in the literature. Rowe provides a clear premise-conclusion form of his argument:

> P1: There exist instances of intense suffering which an omnipotent, omniscient being could have prevented without thereby losing some greater good or permitting some evil equally bad or worse.

> P2: 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 greater good or permitting some evil equally bad or worse.

> P3: [Therefore], there does not exist an omnipotent, omniscient, wholly good being.[8]

What are we to make of the above argument? Premise 2 is generally

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[6] In other words, most skeptical theists admit that we *could* recognize a gratuitous evil, but I am unaware of any skeptical theist who has attempted to spell out *how* we could recognize a gratuitous evil.

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

[8] Ibid, pg. 336.

considered uncontroversial.[9] It is premise 1, then, that is typically targeted by theists. Rowe begins a three-part defense of premise 1 with a thought experiment about a fawn:

> Suppose in a distant forest lighting strikes a dead tree, resulting in a forest fire. In the fire a fawn is trapped, horribly burned, and lies in terrible agony for several days before death relieves its suffering.[10]

Rowe thinks that in the above case it certainly seems like the fawn's agony does not contribute to any sort of greater good. However, Rowe admits that this "seeming" does not prove his point. Presumably, it takes omniscience for anyone to *prove* such a point. Rowe contends that nevertheless, we have "rational grounds for believing" premise 1. Primarily, Rowe has in mind justified inductive inferences, e.g., while we cannot prove that the sun will rise tomorrow, we nevertheless have rational grounds for believing that the sun will rise tomorrow.

Additionally, Rowe asks us to consider if the greater good of the fawn's suffering is "so intimately connected to that suffering that even an omnipotent, omniscient being could not have obtained that good without permitting that suffering or some evil at least as bad?"[11] In other words, considering what we know about omnipotence and omniscience, it seems implausible to think that God could not have brought about the greater good or prevent a greater evil in *no other way whatsoever*. Furthermore, Rowe asks us to aggregate all of the instances of seemingly pointless suffering that occur every day. He contends that it is highly unlikely that each and every one of these instances somehow contribute to the greater good. In fact, Rowe claims that it would be "extraordinarily absurd" to think that way. While he admits that the evidence is not incontrovertible, Rowe concludes that atheists have rational support for their disbelief.

III. WYKSTRA, CORNEA, AND NOSEEUM INFERENCES

Skeptical theism begins with an influential article by Stephen J. Wykstra, in response to Rowe's evidential argument from evil.[12] The linchpin of Wykstra's argument is his "Condition Of Reasonable Epistemic Access," or, CORNEA.

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[9] For an argument questioning premise 2, see: Peter van Inwagen, *The Problem of Evil* (Oxford: Oxford University Press, 2006), 95-112.

[10] Rowe, "The Problem of Evil," 337.

[11] Ibid.

[12] Stephen J. Wykstra, "The Humean Obstacle to Evidential Arguments from Suffering: On Avoiding the Evils of Appearance," *International Journal for Philosophy of Religion*, 16, no. 2 (1984): 73-93. There are also some historical examples of skeptical responses to the problem of evil, which are similar to (but not quite the same as) skeptical theism. See: T.M. Rudavsky, "A Brief History of Skeptical Responses to Evil," in McBrayer and Howard-Snyder, *Blackwell Companion*, 379-395.

Wykstra's original formulation of CORNEA is as follows:

> On the basis of cognized situation s, Human H is entitled to claim "It appears that p" only if it is reasonable for H to believe that, given her cognitive faculties and the use she has made of them, if p were not the case, s would likely be different than it is in some way discernable by her.[13]

In a subsequent article, Wykstra clarifies CORNEA, and argues that human H is entitled to argue

> from "we see no X" to "there is no X" only when X has "reasonable seeability"—that is, the sort of thing which, if it exists, we *can reasonably expect to see in the situation*. Looking around my garage and seeing no dog entitles me to conclude that none is present, but seeing no flea does not; and this is because fleas, unlike dogs, have low seeability: even if they were present, we cannot reasonably expect to see them in this way.[14]

Wykstra calls these "noseeum" arguments.[15] To avoid confusion, it is important to note that "*seeability*" is not a solely empirical principle.[16] Broadly, *seeability* means "epistemic access." *Seeability* applies not only to perceptual experience, but also abstract metaphysical, epistemological, and ethical reasoning. That *seeability* has so many applications is unsurprising considering the problem being discussed. In order to comprehend the greater good(s) that God might permit suffering to bring about, one may only be able to *see* such possible goods with abstract reasoning "beyond" the perceived situation. Viz., our immediate emotions, thoughts, perceptions, might be insufficient to discover the greater good(s), whereas an impartial birds-eye view might add clarity to the situation.

Let us now consider how Wykstra applies CORNEA to Rowe's evidential argument from evil. Applying a proposition to CORNEA is a three-stage process. In part A, we are required to apply Rowe's thought experiment to CORNEA:

> On the basis of [Rowe] *seeing* no God-justifying good served by the fawn's suffering, Rowe is entitled to claim "It appears that there is no such good" only if it is reasonable for Rowe to believe that, given his cognitive faculties and

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[13] Ibid, pg. 85.

[14] Stephen J. Wykstra, "Rowe's Noseeum Arguments from Evil," in *The Evidential Argument from Evil,* ed. Daniel Howard-Snyder (Indiana: Indiana University Press, 1996), 126.

[15] Sometimes referred to as noseeum "inferences" and/or "assumptions."

[16] For the rest of this essay I will italicize "*see*" and "*seeability*" when I use either word in Wykstra's idiosyncratic sense. Unless noted otherwise, if italicized in quotes it will be my emphasis.

the use he has made of them, if the fawn's suffering served such a good, he would likely *see* (have epistemic access to) it.[17]

Stage B requires us to apply the "Adjunct Principle" to Rowe's thought experiment. The Adjunct Principle is all about defeaters: If Rowe is provided with "good reasons to think" (that is, reasons compelling enough to require him to suspend belief on the matter) that we would not have epistemic access to the greater good(s) in which God would have in mind to justify the fawn's suffering—then it is unreasonable for Rowe to believe the opposite unless he can defeat these defeaters with other defeaters.[18] In other words, if counterevidence is presented to Rowe that defeats his initial claim, then Rowe is no longer in an acceptable epistemic position to continue holding his original belief—unless he can postulate his own counterevidence to the counterevidence.

Stage C requires us to ask the following question: If there is some greater good connected to the fawn's suffering, would it be entirely unsurprising that the greater good would be beyond our ken? Wykstra asks us to consider our knowledge relative to that of God. "A modest proposal might be that his wisdom [or knowledge, vision] is to ours, roughly as an adult human's is to a one-month old infant's."[19] How much knowledge does an infant have of the justifying reason(s) her parents have when they to allow her to suffer (for example, when she gets a Tetanus shot)? The answer is obvious, there is very little—if any—understanding on the infant's part. Yet her parents still love and care for her and have a greater good in mind when they allow her to suffer. If we consider the "disparity between God's vision and ours," Wykstra concludes, it is expectable (entirely unsurprising) that most goods connected with evil, including the fawn's suffering, are beyond our ken. To put it another way, if there *is* a greater good connected with the fawn's suffering, we would *see*, more or less, the same thing we *see* now.

IV. ISEEUM AND NOSEEUM ARGUMENTS

Consider the following noseeum inference by subject S, "It appears that ~X, therefore ~X." The noseeum inference is reasonable only if; if X, S would be

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[17] Ibid, 129.
[18] I have here presented the Adjunct Principle with Wykstra's clarifications contained therein. Wykstra's initial formulation (which he admits is vague) of the principle is as follows: "If [Rowe] is made aware of good reasons to think that a God-justifying good would not likely be seeable, then conditionally (i.e., 'unless [Rowe] defeats these with other considerations'), it is not reasonable for [Rowe] to believe that they likely would be seeable." Ibid.
[19] Wykstra, "The Humean Obstacle," 88.

in a position to *see* (or have epistemic access to) X.[20] "It" refers to an agent S's cognitive situational input (CSI). More precisely, the first sentence says: My CSI is such that it is plausible for me to believe ~X, so, (absent defeaters) ~X.

CORNEA can also be used to test "iseeum," or positive arguments as well.[21] Consider the following iseeum inference by subject S, "It appears that X, therefore X." The iseeum inference is reasonable only if; if ~X, S would be in a position to *see* (or have epistemic access to) ~X.

To illustrate, let us consider a couple examples of iseeum arguments. I open the refrigerator, and infer, "It appears that there is milk in the refrigerator, therefore there is milk in the refrigerator." This inference is reasonable only if; if there were no milk in the refrigerator, then (absent defeaters) I would *see* that there is no milk in the refrigerator. This is not as strange as it might initially sound, because as an agent I have epistemic access to the absence of milk. The refrigerator is conducive to my belief about the presence of milk. In other words, I can discriminate between a milk-containing refrigerator and a non-milk containing refrigerator.

Consider another iseeum inference, "It appears that there is a table in the classroom, therefore there is a table in the classroom." This inference is reasonable only if; if there were no table in the classroom, then (absent defeaters) I would *see* that there is no table in the classroom. Again, if there were no table in the classroom I would have epistemic access to this. The classroom is conducive to my belief about its table contents. I can discriminate between a table-containing classroom and a non-table containing classroom.

Iseeum arguments seem to succeed with the refrigerator and table examples above. But, an important iseeum argument does not pass CORNEA's test.

V. THE PUZZLE

In short, the puzzle about CORNEA is this: CORNEA seems to provide a compelling response to the noseeum evidential argument from evil, but when considering an iseeum argument for the existence of God, CORNEA seems to imply that we are not justified in our iseeum belief that God exists—because it is not obvious that we would have epistemic access to the negation of the argument. So, while CORNEA-style skeptical theism undermines the justification for the noseeum evidential argument from evil, it also seems to have inadvertently

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[20] Nick Trakakis formulates noseeum arguments in a similar way. See: Nick Trakakis, "The Evidential Problem of Evil," In *Internet Encyclopedia of Philosophy*, edited by James Fieser, Bradley Dowden, and Christopher Brown, Accessed November 13, 2015. http://www.iep.utm.edu/evil-evi/#SH3a.

[21] Anthony Bolos deserves credit for coming up with the name.

forged a double-edged sword that cuts just as deep for the iseeum argument that God exists.[22] Let us consider this puzzle in further detail.

Framed as an iseeum argument, the theist might infer, "It appears that God exists, therefore God exists." Applied to CORNEA:

> "It appears that God exists, therefore God exists." The iseeum inference is reasonable only if; if God did not exist, S would be in a position to *see* (or have epistemic access to) God's non-existence.

For our purposes, the last part is important to note: If God did not exist, S would be in a position to *see* (or have epistemic access to) God's non-existence. In other words, S would be in a position to perceive (grasp) that her CSI is such that it is reasonable to believe that God does not exist if that were the case. Theists, it seems to me, are not justified in assenting to this argument. It would not, I believe, be unsurprising if knowledge of God's non-existence would be beyond our ken—if He in fact does not exist. In other words, it seems plausible to assume that we would not have epistemic access to God's non-existence. First, when considering our finitude and limited cognitive capacities, it is plausible that such metaphysically deep information would be beyond our ken. Maybe God has good reason to remain hidden until some very future date. This reason, it seems, would likely be beyond our ken. Consider the refrigerator example again: while the lack of milk in the refrigerator is conducive to our non-milk belief, and the lack of a table in the classroom is conducive to our non-table belief, it is not obvious that an omnipotent, omniscient God would not have good reason(s) to remain fully hidden from us. It is plausible, then, that at least in this respect, our faculties would lack the ability to discriminate between G and ~G in the case of God's existence.

The problem, then, is this: if we remain skeptical about our abilities to discriminate G from ~G, then we are not entitled to assent to iseeum arguments regarding the existence of God. By CORNEA's standards, then, not only must we refrain from believing that there are no God-justifying reasons for permitting certain evils, we are also not justified in believing that we are the kind of creatures who can make cogent iseeum arguments for the existence of God.

The theist might respond that God is a necessary being, and so exists in all possible worlds—so any counterfactual about the non-existence of God is incoherent. I respond: *Maybe*. Perhaps God is in fact a necessary being. But whether or not God is a necessary being is beside the point. The argument I am trying to convey is that under CORNEA, we are not entitled to make an iseeum

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[22] Dr. Wykstra inspired this analogy.

claim about the existence of God. So, even if God is a necessary being, to make such a claim would beg the question, because the issue under discussion is that given our cognitive limitations, it is not obvious that we would have epistemic access to the metaphysical necessity of God.[23]

Maybe God does exist—but when scrutinized as an iseeum argument through the lens of CORNEA, a perplexing puzzle arises. The puzzle suggests that we should be skeptical about our epistemic prowess to make a competent judgment on the matter. By CORNEA's standards, then, the skeptical theist should not only accept that the greater goods behind noseeum evils would often be beyond our ken, but also that the ability to make cogent iseeum arguments about the existence of God are likely beyond our ken as well.

VI. CONCLUSION

In this paper, I have argued that CORNEA-style skeptical theism suggests that we should be skeptical of our epistemic access to coherent iseeum arguments about the existence of God. But my criticism need not be limited to belief in the existence of God, I think CORNEA can have deleterious effects on many other areas of inquiry in the philosophy of religion.

I now wish to state explicitly an important admonition that has thus far been implicit in my paper, and it need not apply exclusively to CORNEA-style skeptical theists: *Skeptical theists are too modest*. Arthur Schopenhauer said, "If your abilities are only mediocre, *modesty* is mere honesty; but if you possess great talents, it is hypocrisy."[24] If theists will go so far as to claim that we finite beings can recognize that there exists an all-powerful, all-knowing, all-good creator and sustainer of the universe—then why is it implausible to make the additional claim that we finite beings can also recognize a majority of the reasons as to why God might permit evil? Skeptical theists, if they wish, can dig in their heels—at risk of undermining their other religious views—or they can abandon skepticism about our epistemic situation in regards to evil in search of a stronger defense or theodicy. Just because such defenses and theodicies have produced mixed results in the past, it does not follow that a successful argument in support of such a thesis is insurmountable.[25]

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[23] There *might* be a separate ontological or cosmological arguments that successfully establishes the metaphysical necessity of God. Unfortunately, there is no agreement among theists which, if any argument works. To explore these arguments would take us too far afield.

[24] Arthur Schopenhauer, *Essays and Aphorisms*, trans. R.J. Hollingdale (New York: Penguin, 1970), 176.

BIBLIOGRAPHY

Adams, Marilyn McCord. *Horrendous Evils and the Goodness of God*. Ithaca: Cornell University Press, 1999.

Adams, Marilyn McCord and Robert M. Adams, eds. *The Problem of Evil*. New York: Oxford University Press, 1990.

Dougherty, Trent and Justin P. McBrayer, eds. *Skeptical Theism New Essays*. New York: Oxford University Press, 2014.

Hickson, Michael W. "A Brief History of Problems of Evil." In McBrayer and Howard-Snyder, *Blackwell Companion*, 3-18.

Larrimore, Mark, ed. *The Problem of Evil A Reader*. Malden: Blackwell Publishing, 2001.

Mackie, J. L. "Evil and Omnipotence." *Mind* 64, no. 254 (1955): 200-12.

McBrayer, Justin P. and Daniel Howard-Snyder, eds. *The Blackwell Companion to the Problem of Evil*. Singapore: Wiley Blackwell, 2013.

Plantinga, Alvin. *God, Freedom, and Evil*. Grand Rapids: William B. Eerdmans Publishing Company, 1977.

———. *The Nature of Necessity*. Oxford: Clarendon Press, 1974.

Rea, Michael C. "Skeptical Theism and the 'Too Much Skepticism' Objection." In McBrayer and Howard-Snyder, *Blackwell Companion*, 482-506.

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

Rudavsky, T.M. "A Brief History of Skeptical Responses to Evil." In McBrayer and Howard-Snyder, *Blackwell Companion*, 379-395.

Schellenberg, J.L. "A New Logical Problem of Evil." In McBrayer and Howard-Snyder, *Blackwell Companion*, 3-18.

Schopenhauer, Arthur. *Essays and Aphorisms*. Translated by R.J. Hollingdale. New York: Penguin, 1970.

Swinburne, Richard. *Providence and the Problem of Evil*. New York: Oxford University Press, 1998.

Trakakis, Nick. "The Evidential Problem of Evil." In *Internet Encyclopedia of Philosophy*, edited by James Fieser, Bradley Dowden, and Christopher Brown. Accessed November 13, 2015. http://www.iep.utm.edu/evil-evi/#SH3a

Van Inwagen, Peter. *Problem of Evil*. Oxford: Oxford University Press Oxford, 2008.

Wykstra, Stephen. "The Humean Obstacle to Evidential Arguments from Suffering: On Avoiding the Evils of "appearance"." *International Journal for Philosophy of Religion* 16, no. 2 (1984): 73-93.

———. "Rowe's Noseeum Arguments from Evil. In *The Evidential Argument from Evil*, edited by Daniel Howard-Snyder, 126-150. Bloomington: Indiana University Press, 1996.

Understanding Quantum Mechanics and the Significance of the Player in BioShock Infinite

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INTRODUCTION

Many modern science fiction stories use terms such as "quantum mechanics" and "multiverse" as a loose basis for the pseudoscience that underpins their world and technology. We tend not to question the usage of such terms in these stories because the stories are science *fiction*: there is typically no expectation that they be grounded in rigorously accurate science. However, some stories *do* avail themselves of actual quantum mechanical dynamics, which allows for an aesthetic experience that is at once fantastical and also grounded in real science. In this paper, I will show that the mechanics of video games as a medium give video games special potential for telling stories of this kind. In order to show this, I present a case study of Irrational Games' *BioShock Infinite* (Irrational Games, 2013) and argue that its narrative is best understood as a metaphor for the quantum mechanical phenomenon of collapse.

I begin in Part I with an outline of quantum behavior, as shown in the double-slit experiment, and then discuss two theories which aim to make sense of that behavior: the "Copenhagen" theory, and the "Many-Worlds" theory. In Part II, I analyze *BioShock Infinite* in relation to the Copenhagen and Many-Worlds theories of quantum mechanics. I show that, although certain elements of the story imply that the game is grounded in a Many-Worlds theory, we can better understand the game by instead interpreting it through the Copenhagen theory—something that is only possible when we take the unintuitive step of understanding the player of the game to be a character within its story. I conclude by showing that *BioShock Infinite* is a special case of a more general feature of video games that leads to the potential for unique aesthetic effects: namely, video games allow players to assume the role of external agents acting upon a universe.

I.A REVIEW OF QUANTUM MECHANICS

A. THE DOUBLE-SLIT EXPERIMENT

I contend that *BioShock Infinite* succeeds in using *actual* quantum mechanical theory in developing an impactful and innovative narrative. To see this, we must first be familiar with the strange ways in which small particles behave, and with the various ways in which people have tried to make sense of this behavior. For the purposes of argument I will be sketching a simplified picture of quantum mechanical concepts; while this account of quantum phenomena is not overtly technical, we will see that it is sufficient for

grounding the aesthetics of *BioShock Infinite* in real science.[1]

Let's suppose that we're shooting small particles—say, electrons—from some device in the direction of a wall. Between the shooting device and the wall is another wall, with two slits in it, so that electrons can only hit the back wall by passing through one of the two slits. The dimensions of the experimental setup are such that there is a chance of the shooting device aiming the electron through either one of the slits, and the back wall has a way of recording precisely where electrons collide with it. This famous setup is known as the 'double-slit experiment'.

If the electrons behaved like small particles—i.e. small discrete packets of matter, like tiny bullets fired from a gun—then we would expect to observe two discrete bands on back wall, where band corresponds with electrons that went passed through one of the slits on a straight path and collided with the back wall.

screen with two slits   optical screen   optical screen (front view)
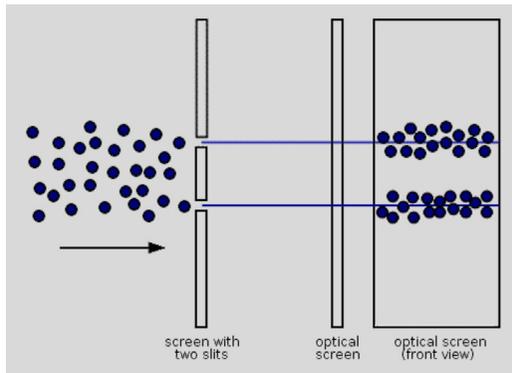
Electrons are fired from a device on the left. Our intuition tells us that each electron will pass through either one slit or the other, resulting in two lines on the back wall (pictured on the right).

But when we run the experiment and then examine the back wall, we *don't* see two discrete bands: instead, we see a variety of symmetrical bands, consistent with the idea that electrons are behaving like *waves* instead of particles: the wave-like electron passes through *both* slits, interferes with itself, and leaves the distinctive pattern on the back wall.[2] One might imagine each

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[1] For a more involved introduction to the same concepts, see David Z. Albert's *Quantum Mechanics and Experience* (1992), or Richard Feynman, *The Feynman Lectures on Physics, Volume 3: Quantum Mechanics.* "Chapter 1: Quantum Behavior" (1964). Feynman in particular provides a lucid discussion of the double-slit experiment and its results.

[2] This is an oversimplification and is technically incorrect. It is more accurate to say that the electron passes through Slit #1, Slit #2, both slits, and neither slit, all simultaneously—but the analysis of how this is the case is beyond the scope of this paper, and has no bearing on the matter of the aesthetic representation of collapse in *BioShock Infinite*.

electron like a ripple in a pond, emanating from the shooting device—very roughly, that is how electrons behave like waves.
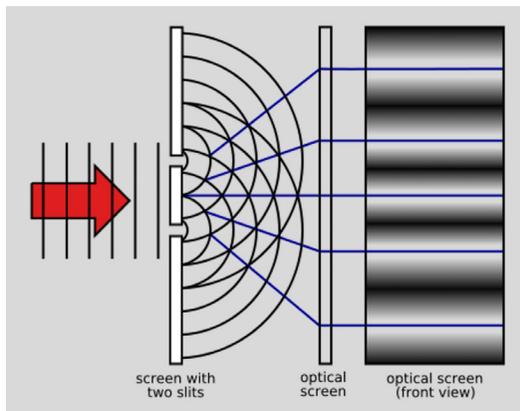
Electrons, illustrated as horizontal waves, pass from the left through both slits at once, interfere with themselves, and generate a pattern of lines on the back wall (pictured right).
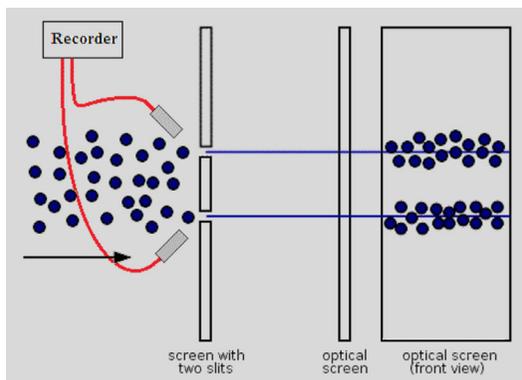
Electrons illustrated as particles, but behaving as waves, amass on the back wall as pictured above. Note the difference between the actual pattern generated on the back wall, as shown here, and the expected pattern from the first illustration.

So it seems as if these small particles behave more like waves than they do like particles. And in fact, it turns out that we have good empirical reason to believe that the physical properties of these particles can be *completely described* by functions describing waves—i.e. by 'wave functions'.[3] This in and of itself is already bizarre: how can *a single* electron somehow pass through *both* slits, like a wave? It seems as if a single electron should only be

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[3] Cf. Feynman, "Quantum Behavior."

able to pass through one of the two slits at most. So, one could investigate this strange wave-like behavior by placing a detector by the slits, measuring which electrons pass through which slit. However, when a detector is introduced in this way, suddenly the electrons *do* behave like little bullets. The wave-like interference patterns disappear from the back wall, and we see two discrete bands instead.
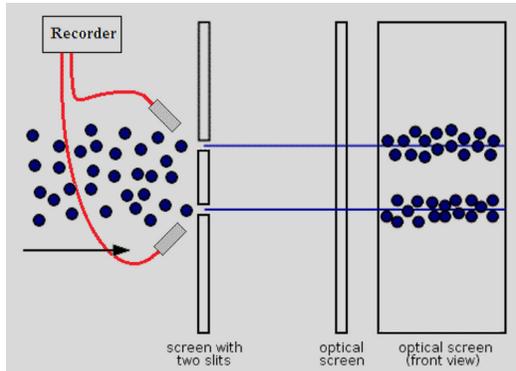
Adding a detector to the experimental setup (labeled "Recorder" in the illustration) yields the experimental results that we expected in the first place (i.e. the results in the first illustration).

The baffling conclusion drawn from experiments like this is that *small particles behave like waves unless the situation is such that we can know their position, in which case they behave like particles.* Particles are in a 'superposition' of being in many positions simultaneously (this is the wave-like behavior), until we measure them: then, they appear to be determinately in just one position (in our example, the position of going through one slit or the other)—and it turns out that quantum mechanics, by means of a statistical algorithm, can give us extremely accurate probabilities describing how likely it is that we will find a given particle a particular position.[4]

How can we make sense of this bizarre particle behavior? It defies our basic notions of scientific investigation to think that merely measuring particles could fundamentally change how they behave—and yet this seems to be how the world really works. And even then, there is another problem: how can we make sense of the fact that we *don't* observe the strange dynamics of the double-slit experiment in everyday life? As far as we know, the macroscopic physical world is made up of a *very* large number of microscopic particles, so why doesn't the behavior of electrons lead to, say, people behaving like waves until someone else looks at them?

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[4] These are the probabilities given by Born's Rule.

People have developed a variety of theories in an attempt to answer these questions. As I said at the outset, we will be concerned with the Copenhagen and Many-Worlds theories of quantum mechanics, which answer the questions at hand in different ways. To understand how these theories relate to one another, it will be useful to reframe the exact problem that they aim to solve.

B. THE MEASUREMENT PROBLEM AND TWO POTENTIAL SOLUTIONS

The above quantum mechanical behavior gives us good empirical reasons to believe the following three claims, which, taken together, are mutually contradictory.[5]

1. The physical properties of systems are completely described by their corresponding wave function.

2. Wave functions always behave like waves.[6]

3. We always see determinate outcomes when measuring physical systems—i.e., when we measure particles, the particles are in a single position, not wave-like superpositions.[7]

The problem that these empirically plausible three claims are mutually contradictory is called 'the measurement problem'. If we suppose that a system's physical state is completely described by its wave function, as quantum mechanics' statistical algorithm says, *and* that, as it says, that wave function always behaves like a wave, then it must be the case that the system never evolves in such a way that its wave-like properties are violated—i.e. Claim #1 and Claim #2 hold, then Claim #3 cannot hold. *Or*, if we instead accept that a system's wave function always behaves like a wave and that the system sometimes evolves in such a way that this wave-behavior is violated, then it must not be the case that the system's physical properties are completely described by its wave function—i.e. if Claim #2 and Claim #3 hold, then Claim #1 cannot hold. *Or*, finally, if we assert that a system's wave function completely describes its physical properties and that the system sometimes does not behave like a wave, then it cannot be the case that the wave function always behaves like a wave—i.e. if Claim #1 and Claim #3 hold, then Claim #2 cannot hold.

Various theories of quantum mechanics aim to resolve the measurement problem by rejecting the truth of one of the above three claims, thereby avoiding the problem of mutual contradiction. I will explain how the Copenhagen theory

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[5] I borrow the general structure of this formulation of the measurement problem from Tim Maudlin's "Three Measurement Problems," *Topoi* **14**: 7-15, 1995. This is what Maudlin refers to as 'the problem of outcomes'.

[6] More precisely, wave functions always obey linear dynamics—e.g., the Schrödinger equation.

[7] More precisely, linear dynamics (e.g., the Schrödinger equation) are violated when we measure physical systems.

rejects Claim #2, and how Many-Worlds rejects Claim #3.

The Copenhagen theory of quantum mechanics is what most textbooks endorse. It is the view that wave functions sometimes don't behave like waves— i.e. it rejects Claim #2. Instead, whenever we measure a physical system, its wave function undergoes a 'collapse': its wave-like superpositions resolve into determinate, singular positions—and which particular positions the system ends up in are determined probabilistically.[8] So, in the double-slit experiment, when we add the detector to the experiment, there is a 50% probability that any given electron that reaches the back wall will "collapse" to passing through Slit #1, and a 50% probability that the electron will collapse to passing through Slit #2. And according to Copenhagen, that is all we can say: there is no experimental data available to explain anything about *why* collapse is something that happens. As Richard Feynman famously put it, "No one has found any machinery behind the law. No one can 'explain' any more than we have just 'explained.' No one will give you any deeper representation of the situation. We have no ideas about a more basic mechanism from which these results can be deduced."[9]
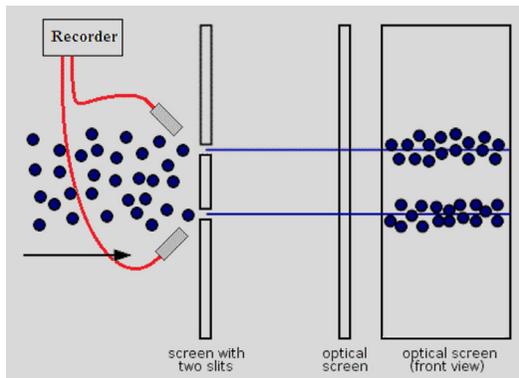
We can represent Copenhagen graphically by imagining that the universe really works the way it appears to in the double-slit experiment: measurement causes wave functions to collapse, yielding singular determinate outcomes.

Many-Worlds, in contrast, rejects the notion that particles stop behaving like waves when we measure them—i.e. it rejects Claim #3.[10] Instead, it says, *we also start behaving like waves when we measure the system*. Return to the double-slit experiment. When an electron passes through the setup in the presence of a detector, there two possible definite outcomes to the experiment: either the electron in question passes through Slit #1, or it passes through Slit #2.

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[8] Again, Born's Rule yields these probabilities.

[9] Feynman, "Quantum Behavior." Page 10.

[10] A useful, succinct introduction to Many-Worlds can be found in *The Wave Function: Essays on the Metaphysics of Quantum Mechanics* (2013), edited by Alyssa Ney and David Albert, page 33.

According to Many-Worlds, when we measure the particle, the particle does not "collapse." Instead, reality "splits" into two realities: one in which we observe the electron passing through Slit #1, and one in which we observe it passing through Slit #2. Physical systems, on this view, never stop acting like waves: reality just splits at every measurement event, so every possible outcome is represented in some reality. We never notice this strange wave-nature of the world around us because we only ever experience one branch of reality at a time.[11] The whole universe, in other words, is wave-like. It is crucial to note that all of these realities are discrete from one another, and it is theoretically impossible for them to ever overlap—if this were not the case, then the theory could not get off the ground in the first place.

<center>screen with   optical   optical screen
two slits   screen   (front view)</center>
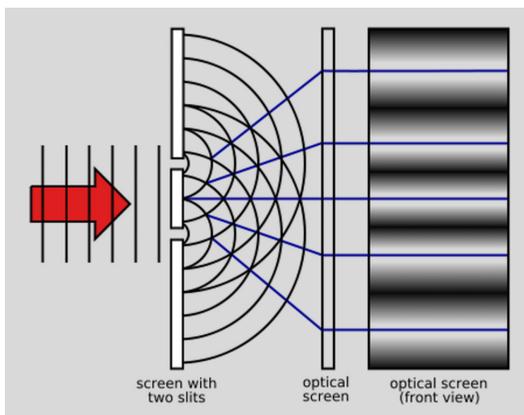
We can represent Many-Worlds graphically, in contrast, by imagining the entire universe as the wave-model of the double-slit experiment. The universe's evolving wave function leads to a proliferation of realities at each measurement event.

We now have a sense of two theories explaining the bizarre quantum behavior of the universe. It is time to see how these theories ground the aesthetics of *BioShock Infinite*.

II. THE QUANTUM-MECHANICAL AESTHETICS OF *BIOSHOCK INFINITE*

A. THE PROBLEM WITH MANY-WORLDS AS APPLIED TO BIOSHOCK INFINITE

I will begin by glossing the major features of *BioShock Infinite*'s story, so that we will be able to clearly examine the implications that quantum mechanics bring to bear on the game.

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[11] Of course, if we measure something and reality splits, then versions of us exist in both resulting realities—and so it is not obvious how to parse the meaning of "we" in this sentence or in Many-Worlds more generally. The relevant point is simply that our conscious experience, what it may ultimately amount to, seems to only ever engage one branch of reality at a time.

BioShock Infinite's story is difficult to understand because, as it creator, Ken Levine, noted in an interview with *Forbes*, "Our brains are not really designed to understand [quantum mechanics], and even having gone through a game where I've researched this […] it's still something that challenges your brain in a way that few scientific notions can."[12] The story centers on a conflict in 1912 between private investigator Booker DeWitt—the character whom the player controls—and political leader Zachary Hale Comstock. The game begins with Booker inexplicably being sent to Columbia, an airborne nation under Comstock's control, with the vague objective to "bring [them] the girl and wipe away the debt," though it is unclear who "they" are, who "the girl" is, and what "the debt" is.

Although the player does not learn this until the end of the game, it turns out that Booker and Comstock are two different *versions* of Booker, derived from whether or not Booker chose to be baptized in a quest for redemption for his actions at The Battle of Wounded Knee in 1890; using technology that allows for communication and travel between realities, various versions of Comstock seek world domination and kidnap the daughters of various Bookers to serve as their heirs (Comstocks are sterile due to overuse of reality-traversing technologies). Although Booker did not realize it at the beginning of the game, two scientists drew him into a Comstock reality, aiming to enlist his help in ending this infinite cycle. This requires the use of Elizabeth, Booker's daughter, who developed the ability to traverse and perceive all realities as a result of being stolen across realities as a child—she, "the girl," must use her powers to "wipe away the debt" of the unending cycle of Bookers and Comstocks.

Ultimately, the only way for Elizabeth end this cycle is by annihilating Booker at the moment of his decision to either accept or reject baptism: after taking Booker to an abstract sea of lighthouses representing all possible realities, she drowns him in the baptismal waters at that precise moment in time; this effectively prevents Booker from bifurcating into infinite Bookers and infinite Comstocks.[13] After Booker drowns and the game's credits roll, a scene plays of Booker waking up in his office in 1893, calling out to Anna (his daughter), and walking into a room with a crib before the screen fades to black.

With the game featuring multiple realities, it already seems obvious that there is a Many-Worlds theory at work in the background. This is even more

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[12] From "In Retrospect: Ken Levine on 'BioShock Infinite' and Many Worlds," Daniel Nye Griffiths, July 31, 2013. *Forbes*.

[13] It is plausible on a Many-Worlds interpretation of the game that this "abstract space" is analogous to configuration space, the theoretical vector space that contains the universal wave function. This implies that Elizabeth drowning Booker did not transpire in any particular reality, but rather that Elizabeth removed that decision point from the universal wave function altogether. This explains why the event of Elizabeth drowning Booker does not itself bifurcate into realities of Elizabeth drowning and also not drowning Booker.

obvious to those who know the history of Many-Worlds as a theory: in 1957, Hugh Everett developed the foundational work that made it possible; however, Many-Worlds itself did not come along until another theorist *interpreted* Everett's work as describing a multiplicity of realities. That man's name was Bryce *DeWitt,* who shares his last name with *BioShock Infinite*'s protagonist.[14] And so it seems at first blush that the game's metaphysics simply invite the player to explore what the universe might be like if Many-Worlds were true and it were also the case that various realities could somehow bleed together.

Of course, there's a problem with this understanding of the game: as I noted above, it *must* be the case that each and every reality is non-overlapping in order for Many-Worlds to get off the ground in the first place. If the realities could interact, then the theory could not be tractable at all. So if we look at *BioShock Infinite* in this way, then we have to accept that its science fiction is not robustly grounded in real quantum mechanical theory—and it becomes obvious why it is so difficult to make sense of sequences of events and causation between different realities. The game, in this context, ends up looking more like *fantasy* than science fiction.

Even if we accept that *BioShock Infinite* is more fantasy than science fiction, deeper issues remain with respect to how we ought to understand its narrative. How can we make sense of the passage of time and events within a single reality if they are coextensive and interactive with the time and events within another reality? Similarly, how are we to make sense of causation in this context, either within or between realities? It is hard to make sense of questions such as these, let alone answer them, because it is not obvious how to parse time-dependent claims when they involve the fundamental constituents of reality being modified.

Perhaps most worrisome for this understanding of the game is the fact that, if Elizabeth was successful at the end of the game and truly annihilated Booker at the moment of potential baptism, then the entirety of the game's story that the player just completed *would never have existed*. This is not to say it would have simply been "just a dream," or an illusion—it literally would never have obtained within the game's universe, by stipulation of the game itself. It is difficult to see, then, what value a player could be expected to derive from the game's story at all. We could not even frame it as a nihilistic story claiming that its events were meaningless: by the game's own logic, Elizabeth's erasure of Booker made it the case that the events of the story did not exist—and so it turns out at the end of the game that there are no events to analyze as meaningless

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[14] See *The Wave Function: Essays on the Metaphysics of Quantum Mechanics* (2013), edited by Alyssa Ney and David Albert, page 33.

or meaningful. Either we will need a vastly revisionist aesthetic analysis in order to make sense of the story's "non-events," or we need another way of thinking about the quantum mechanical grounding of the game's universe.

B. UNDERSTANDING *BIOSHOCK INFINITE* AS A METAPHOR FOR COLLAPSE

We see that interpreting *BioShock Infinite*'s universe in a purely Many-Worlds context, tempting though that interpretation may be, leads to crippling problems for making sense of its story; so, if there is an alternate interpretation available to us that allows us to make better sense of what is going on in the story, then we ought at least to seriously consider the merits of that interpretation. I contend that a collapse theory of quantum mechanics is just such an alternate interpretation: in particular, I think that we ought to conceive of *BioShock Infinite*'s narrative as a metaphor for quantum collapse, in the Copenhagen theory's sense of 'collapse'.

On the Copenhagen interpretation of quantum mechanics, collapse of wave functions happens when measurement occurs—and that's all that we can say about it. But what if we could tell a story about this phenomenon? What if we put characters and events to the notion of a system being in many different positions collapsing into a single, determinate position? This would be an artistic exploration of a real, scientific process—namely, collapse—and it would also defy our traditional notions of narrative because the scientific process being explored *has yet to actually be explained*. This is precisely what we see in *BioShock Infinite*.

What would happen to the universe if someone observed it from the outside? In our own world, from a scientific perspective, this is practically a nonsense question: if we conceive of the universe as all time and space, then it doesn't seem as if anything can be meaningfully "outside" of it. But we can easily explore this sort of question in video games, because video games present discrete worlds and universes—the player looks on these worlds and engages them *from the outside*. The world of a game is confined to a computer system, which the player can engage and influence. And so they present an opportunity to talk meaningfully about someone observing a universe.

If we think of the player as an observer of the universe of a video game, then we can think of the video game's universe as analogous to the double-slit experiment: the contents of the universe are in superposition of many different outcomes until the player engages the game, thereby "measuring" the system. And when measurement happens, we have the same choice of theories by which to make sense of what happens.

A standard Copenhagen interpretation of quantum mechanics is especially useful for making sense of video games as a medium in this regard. This is a useful interpretation to choose because it reflects how players actually engage video games. Prior to player input, the worlds of video games are mere potentialities, a variety of disparate outcomes encoded by the game's program; but when the player engages the game "from the outside," a single, determinate series of events emerges as output, which the player observes as the game's narrative. Out of superposed potentials, one coherent world emerges—a phenomenon very similar to collapse.

The player of *BioShock Infinite* encounters a universe with many possible series of events—many possible realities—and by engaging that universe—by playing the game—the player causes the universe to *collapse* from a superposition of realities into a singular, determinate reality: the scene presented at the end of the game. Recall that the question of *which* position a system in superposition will collapse to is probabilistic. This, on my interpretation, is why the last scene of Booker in 1893 is so vague as to which particular reality it takes place in: the game itself reflects the fact that the final, determinate reality could be *an infinite number* of the prior superposed realities, and which particular reality has been made determinate *is fundamentally a matter of chance*. The game's story makes meaning out of the confused, inexplicable collapse of disjunctive, entangled realities into one determinate reality: we do not *need* to make sense of things like time or causation within the story on this interpretation, because the story is a metaphor for the instantaneous annihilation of all but one component of the universe's superposition. In fact, if the game *were* to provide an explanation for time, causation, and so forth, then it would less closely resemble the instantaneous and inexplicable phenomenon of collapse, rendering a Copenhagen interpretation less plausible in the process.

This analysis allows appreciators of *BioShock Infinite* to engage the story while also making sense of its world's scientific dynamics. In so doing, we can avoid the analytic pitfalls of the approach that ignores the player and instead conceives of the game's universe using a Many-Worlds interpretation alone. But the analysis has another benefit beyond this: it allows us to see clearly a special insight that *BioShock Infinite* provides into the aesthetics of quantum mechanics.

There *is* something very Many-Worlds-esque about *BioShock Infinite*, although we cannot make sense of its universe using Many-Worlds alone. Until collapse happens, its universe is in a superposition of multiple, discrete realities—and this could be likened to a Many-Worlds universe. Note that we never see this universe in the game: by stipulation, this is impossible, because

our engaging the game's universe causes it to collapse. This universe would not feature an Elizabeth who crossed over realities, since each reality is discrete, but it *would* presumably be populated by a variety of Comstocks and Bookers in various realities. And this allows us to notice something illuminating: if we consider a universe in conjunction with an observer external to that universe, then there is a way in which we can contemplate a *combination* of Many-Worlds and collapse dynamics: the universe alone, in superposition, can look like a collection of disjunctive realities—but, in virtue of the outside observer, we could imagine there being collapse dynamics such that the observer causes all but one of those realities to vanish by measuring the universe. When the subject of inquiry is our actual universe, this notion makes little sense; yet *BioShock Infinite* shows that exploring conjunctions of quantum theories such as this is both possible and compelling in the arts—particularly in the medium of video games, which comes complete with a universe (the world of the game) and an observer (the player).

CONCLUSION:

By making use of the dynamics of video games as a representational art form, *BioShock Infinite* manages to take real quantum mechanical theory and philosophy as a basis for its elaborate storyline. It allows us to imagine collapse as an emotional, human experience, in which our various identities, desires, and potentials violently resolve in an instant.

Beyond this, the game demonstrates the special potential that video games have to render the totality of a universe as part of their aesthetics. In physics and philosophy of science in the context of the real world, our theories of the total universe's dynamics and nature are hindered by the fact that we will never be able to observe the total universe from an objective viewpoint outside of it. In video games, on the other hand, players are *always* in the position of observing the game's universe from outside of it. Taken with the interactive nature of video games, this allows the stories of video games to explore what happens when well-defined universes are perturbed from the outside—in the case of *BioShock Infinite*, this takes the form of the player inducing universal collapse. This is a principal reason why we ought to begin understanding the player of video games as a character in their stories: in so doing, we can often make better sense of the game, and we also become aware of the special aesthetic effects it espouses.

Wittgenstein's Tractatus on Solipsism, Realism, and Nonsense

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The purpose of this essay is to explore Ludwig Wittgenstein's claim near the end of his *Tractatus Logico-Philosophicus* that "solipsism strictly carried out coincides with pure realism" (5.64). I will first provide a short explanation of the terms involved, but independent of the context of Wittgenstein's specific claim. Then, I will provide three different interpretations of the claim, the third of which is the most heavily grounded in Wittgenstein's own writing. This will raise certain internal inconsistencies arising from Wittgenstein's arguments regarding what can and cannot be adequately expressed in language, but that conflict highlights one of the deepest complexities in Wittgenstein's claims: their inability to accurately and adequately be articulated even according to his own system. That leads me to the first of two disclaimers I would like to put forth before beginning the explanation of Wittgenstein's specific claim.

The first disclaimer is that this essay must necessarily fail. By Wittgenstein's own account, both within his book and at its conclusion, his propositions cannot adequately express what they are meant to. In part, this is a necessary consequence of the fact that talking about language requires a perspective which is beyond language, and as we will see, trying to express in language that which is beyond language is futile. While it may be possible to express a concept intelligibly, that possibility of expression does not necessarily mean that the concept expressed has what Wittgenstein calls "sense." As he writes in the penultimate proposition of *Tractatus*, "He who understands me finally recognizes [my propositions] as senseless" (6.54). While many of the concepts integral to explaining Wittgenstein's claims are indeed senseless—and for that reason, this essay, as even *Tractatus* itself, cannot adequately articulate them—they are necessary to understanding his work.

The second disclaimer is to formally acknowledge the difficulty posed by Wittgenstein's writing style. His bare-bones propositions are truly a model of the book's final sentence: "Whereof one cannot speak, thereof one must be silent" (7). Such little guidance opens the possibility of several (if not many) interpretations, which Wittgenstein himself acknowledges in the preface to *Tractatus*: "This book will perhaps only be understood by those who have themselves thought the thoughts which are expressed in it" (Preface). Therefore, explaining—a prerequisite to which must be understanding—his work requires the active input of the reader. As such, my explanations here are my own interpretation of the thrust of his argument and I do not claim the ability express Wittgenstein's own propositions better than the philosopher himself.

Solipsism and realism are never explicitly defined by Wittgenstein, which requires us to rely on what appear to be his assumed definitions if we wish to understand the originally quoted claim. Generally, solipsism is

characterized by the understanding that the self is all that can be relied on as a constituent of the world. That which appears outside the self is perceived as certain data that is transmitted to us, but that data cannot be extrapolated to confirm the existence of those extra-self phenomena. Alternatively, realism is the position that the world is as we perceive it—the table and the chair have a metaphysical existence as a table and a chair. The purpose of this essay is an attempt to understand how Wittgenstein claims that these seemingly contradictory worldviews "coincide."

I will now propose several possible explanations for Wittgenstein's claim. The first requires distinguishing between metaphysical solipsism and epistemological solipsism.[1] Both admit to the ultimate inability of the mind to confirm the existence of that which is outside the mind, but metaphysical solipsism purports this to be an indication that all which is outside the mind is, in fact, not real. Epistemological solipsism, on the other hand, leaves open the possibility for that which is outside the mind to be real and only concludes that it is impossible to know definitively. In his proposition, perhaps Wittgenstein refers to epistemological solipsism, which "strictly" applied—that is, maintaining the possibility for that which is outside the mind to be real—is entirely compatible with the realist's position that that what is observed in the world is what truly exists. This is especially the case if Wittgenstein modifies with "strictly" to suggest that very distinction between metaphysical and epistemological solipsism. However, seeing as he did not specify this distinction explicitly, it is unlikely that his use of "strictly" is meant to distinguish between the two by emphasizing one.

A second possible interpretation of Wittgenstein's proposition focuses on that which one cannot know according to solipsism and realism. By proposing that what we observe is what is, the realist implies that that which cannot be perceived is not. The solipsist proposes that certain data is all we perceive outside the self and we cannot perceive whether something truly exists or not. Thus realism and solipsism coincide where something cannot be perceived, that is, beyond the realm where realism can make conclusions. Because solipsism denies the existence of all outside the self, solipsism and realism both deny the existence of that which is not perceived.

This explanation seems unlikely for two reasons. The first general reason is that this may be a misrepresentation of realism. The second reason is specific to Wittgenstein, who writes, "solipsism, strictly carried out…" but

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[1] I am indebted to the Wikipedia article on "Solipsism" for this distinction. Information from Wikipedia can be unreliable, but whether this distinction has a source or not is irrelevant to its applicability to my paper. I am merely crediting Wikipedia for giving me the idea.

according to this interpretation, realism and solipsism coincide when *realism* is "strictly carried out."[2]

The earlier mentioned concept of boundaries which limit that which makes sense and that which is beyond plays an important role in Wittgenstein's *Tractatus* and is worth exploring before offering the third, and most likely, interpretation of his proposition. The *Tractatus*, he writes in the preface, will "draw a limit to thinking, or rather—not to thinking, but to the expression of thoughts…The limit can, therefore, only be drawn in language and what lies on the other side of the limit will be simply nonsense" (Preface). A general example of this principle is given later in the book: Wittgenstein claims that we cannot say, "This and this there is in the world, that there is not" (5.61). These statements, which definitively affirm or reject the existence of some thing perceived in the world, while grammatically correct, are nonsensical. Wittgenstein argues that in order to affirm or reject such a claim, we would be required to observe the world from outside of it, that is, beyond the limit of the world. This is impossible. Any language that depends on a perspective that is outside the world—and therefore, logic[3]—must be nonsensical.

Wittgenstein writes that this "provides a key to the question, to what extent solipsism is true" (5.62). How is this the case? Why does the conclusion that "this and that exist in the world" is nonsensical lead Wittgenstein to solipsism? Unfortunately, he does not provide a direct answer. However, we can look at the implications of that first conclusion and how they can lead to solipsism. If we cannot sensibly claim, "this is in the world," we cannot be certain about these observations. Similarly, solipsists claim that the one cannot be certain about that which perceived outside the self.

But what are we to conclude about the self itself? Certainty in the self is a prerequisite to solipsism, but perhaps we cannot be any more certain of the self than we can be of that which is outside the self.

In order to address the perception of the self, Wittgenstein draws an analogy to our field of vision (5.633). There is a significant amount of data we perceive from our visual fields, but none of that data is specifically that of an eye. However, the existence and perception of that data presupposes that something is receiving that data; according to Wittgenstein, the observed presupposes an observer. Just as the eye is the presupposed observer of a visual

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[2] I interpret "strictly carried out" as implying an extension to the natural logical conclusion of a certain system. Generally, realism is understood as a system applied based on what *is* perceived. In this case, we extrapolate beyond the general understanding of realism to conclude that while an object is real if perceived, if it is not perceived, it is not real. This extrapolated conclusion is then compared to the general interpretation of solipsism. Thus, it is the realism being "strictly carried out" and not the solipsism.

[3] "Logic fills the world: the limits of the world are also its limits" (5.61).

field, so too is the self the presupposed observer of the data we know to be perceived. Thus the self, presupposed, appears to be a legitimate foundation upon which solipsism can be built.

It is significant, however, that the eye can never be seen and the self can never be directly perceived. It is for this reason that Wittgenstein writes, "In fact what solipsism means, is quite correct, only it cannot be *said*, but it shows itself" (5.62). The eye, in a way, is the limit of the visual field, unable to be reached and beyond it. Similarly, the self is the limit of the perceived world. As the limit, that is, beyond the perceived world, speaking about it is nonsense ("it cannot be *said*"). This analogy to the visual field therefore results in two distinct and seemingly contradictory conclusions: the self is both presupposed but also unable to be expressed sensibly.

In a way, Wittgenstein's preface, by only categorizing "what lies on the other side of the limit" as nonsense, leaves open the question as to the status of the limit itself. That is, perhaps what is beyond the limit is nonsensical, but the limit itself can be sensibly expressed. However, 5.62 does indicate that solipsism "cannot be said." Thus he seems to conclude that the limit itself, in its unreachability, is beyond the line of sensible articulation.

Left with the self as both integral to the propositions of solipsism but also unable to be articulated in sense, we must ask the following: How can we express that the self is all there is if there is no way to express the concept of the self sensibly? Here, we can provide a third possible interpretation of Wittgenstein's proposition that "solipsism strictly carried out coincides with pure realism." Perhaps they coincide because they both cannot be expressed sensibly. After all, the stipulations of realism are exactly what Wittgenstein writes cannot be expressed: "This and this there is in the world" (5.61). Similarly, as is clear once Wittgenstein's visual field metaphor is "carried out," the self cannot be expressed and therefore solipsism cannot be expressed. Solipsism and realism are both ultimately expressions of nonsense—thus they coincide as nonsense.

This third interpretation of Wittgenstein's claim appears similar to the second, but the difference is significant. According to the second interpretation, the overlap between solipsism and realism only occurs at the point when realism is "strictly carried out" to the case of that which is not perceived. The third interpretation, on the other hand, marks the coinciding of solipsism and realism where solipsism is carried further to the conclusion that the self is nonsensical.

Moving past the mere explanation of Wittgenstein's claim in 5.64, it is important to note that the fact of nonsense or ineffability does not render solipsism or realism entirely worthless. Wittgenstein still appears to hold that "what solipsism means is quite correct"—he merely differentiates between

that which can be expressed and that which must be shown. In this case, he understands solipsism to show itself, and although he provides no precise explanation for how something can show itself, he clearly affirms its legitimacy. Proposition 5.634 also speaks to the correctness of solipsism: "Everything we see could also be otherwise. Everything we can describe at all could also be otherwise."[4] That proposition, in conjunction with Wittgenstein's already cited propositions, are what confirm the truth of solipsism, even if it may be ineffable.

The general idea that concepts which are ineffable may still be correct is a point that applies to both this paper's discussion of such concepts and Wittgenstein's own book, as he indicates in his closing lines about one who has understood his propositions: "He must so to speak throw away the ladder, after he has climbed up on it" (6.54). This metaphorical ladder is the crutch of Wittgenstein's nonsensical language in the *Tractatus*. In order to explain such ineffable concepts, he was required to express that which is beyond the realm of the expressible. However, once the information is understood, Wittgenstein advocates disposing of the ladder and removing the verbal crutch of the nonsensical—ultimately, "one must be silent" (7).

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[4] Although sensible, even that which is expressible, that which "we can describe," may be other than it is perceived.

BIBLIOGRAPHY

"Solipsism." *Wikipedia*. Wikimedia Foundation, 10 Mar. 2014. Web. 05 Oct. 2014.

Wittgenstein, Ludwig, and C. K. Ogden. *Tractatus Logico-philosophicus*. Mineola, NY: Dover Publications, 1999. Print.

On Political Obligations of Refugees

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In contemporary literature discussing whether individuals owe political obligations to the states they live in, there appears to be two main arguments that seek to ground political obligations in individuals. These two arguments are the argument from membership and the argument from fair play. In this paper, I will first examine whether either, or both, arguments have sufficient claim to ground refugees' political obligations towards the states that took them in. Next, I will explore whether these two arguments are sufficient to ground political obligations in American citizens. The aim of this paper is to show that American citizens do have strong, all-things-considered-type political obligations to the United States (US) whereas neither the argument from membership nor fair play can ground the same strong, all-things-considered-type political obligations for refugees to the US. Refugees, at best, have *prima facie* political obligations to the US.

Prima facie political obligations are duties that individuals owe to the state in view of prudential reasons; individuals need not always adhere to *prima facie* political obligations. All-things-considered-type political obligations are duties that individuals owe to the state regardless of circumstances. They are strong political obligations that must be adhered to under all circumstances by individuals who have such duties. For the purposes of this paper, the basis of which the type of political obligation is assigned to individuals depends on how strongly the *grounds* for political obligation are met. If the grounds for political obligation are weakly met, then individuals only have *prima facie* political obligations to obey the law, as we can at best ascribe only *prima facie* political obligations because we know that those individuals only have instrumental reasons to obey the law, like avoiding punishment. If the grounds for political obligation are strongly met, then they have strong, all-things-considered-type political obligations as we know that those individuals have more than just instrumental reasons to obey the law, they have other reasons such as a duty to reciprocate debts of gratitude. These grounds for political obligation in turn depend on how well an individual's circumstances fit the argument from membership or the argument from fair play. The circumstantial fit also determines *how many* of their political obligations are all-things-considered rather than *prima facie* (a question of scope).

Proponents of one version of the argument from membership start by taking political societies to be sufficiently like familial groups. Political obligations in members of those societies stem from their strong sense of identification with society. Proponents of the argument from membership claim that all members of familial groups have a moral obligation, or even a duty, to obey the rules governing the group. Likewise, so do members of societies sufficiently like familial groups.

There are two ways in which an individual might considers him- or herself a member of the group: a felt membership with the group, where this felt membership could either be an acute or passive membership with the group, or identifying with a group in such a way that one already feels compelled to obey the norms in a given society. To elaborate, what both forms of membership have in common is that, among other things, the agent must subscribe to the norms of that group, sharing beliefs and convictions that are characteristic of members in that group. The key difference between the two is that for felt membership, the agent has a mere feeling of membership in a group whereas for an agent that identifies with one's felt membership, the felt membership is constitutive of one's identity. One of the key attractions of the argument of political obligation grounded in membership is that it seems intuitive to most individuals that if they identify as members of a certain political community, then they naturally have obligations towards the society (Dagger, 107).

On a cursory glance, it would seem to most people that the argument from membership does not suffice to ground political obligations in refugees who seek refuge in the United States. As the argument from membership asserts that moral obligation is grounded in a sense of identification with a group, it may fail to apply to refugees who just arrived to the US, and who are still new to American culture and might not know much about the new country that they are in. Without this understanding of the culture of their new home, it would difficult for the refugee to develop a sense of identity that is aligned to the shared identity of Americans.

Furthermore, when one conceives the idea of a member of society, one would think that the individual is either a citizen of the society, or at least holding a form of permanent residency to the country they live in. These refugees hold neither of those official designations awarded by the US government. Although proponents for the argument from membership need not insist on an official designation of membership of the refugee from the host country, it would suffice to say that such official designations bolster their argument that refugees do indeed feel like members of a society with such recognition. Thus, to the common man, a recognition of membership in the form of the right to own a US passport or (permanent) residency status would be necessary to convince them that refugees do have political obligations to the state based on the argument from membership.

Based on both of these arguments, opponents claim that refugees do not have political obligations that are grounded in membership to the US, at least in the short-term before they are granted official membership or accumulated

enough cultural knowledge to assimilate seamlessly into, and identify with, the American society.

However, defenders of the argument from membership might defend their claim by urging individuals to look at the deeper psychological underpinnings of these refugees to understand whether they indeed do identify themselves as members of the American society, even in the short-term. According to the US Citizen and Immigration Services website, people who seek refugee status or asylum are those who are "people who have been persecuted or fear they will be persecuted on account of race, religion, ethnicity, and/or membership in a particular social group or political opinion". In other words, these refugees had to leave their country of origin due to distress or persecution. An example of present day persecution is the Rohingyas, who are currently being persecuted for their religion by the Myanmar government (The Economist, Amnesty International USA, Hamling). These Rohingyas are forced on boats to flee to seek refuge in other countries. However, due to the political and economic nature of the Southeast Asian region, most Rohingyas are denied refugee status in the countries nearby, thus they have to live on floating boats until a country decides to take them in.

Using the Rohingyas as an example, proponents of the argument from membership might assert that these refugees might not bear allegiance to their old state due to the persecution, and instead have an overwhelming sense of gratitude to the nation that takes them in. This debt of gratitude would cause them to regard the nation as their "foster parents", to use the analogy of the proponents of membership, and this would lead them to at least have passive felt membership towards their adoptive state. Furthermore, this acceptance might further encourage them to actively regard themselves as members of the group (acute felt membership), by a "conscious discovery of one's position, and on an affirmation of this position", as described by Yael Tamir (Dagger, 109). Through the process of this discovery, the refugee might discover and identify with in-built norms in the society that they live in. Therefore, we can potentially attribute felt membership of all three kinds (acute, passive, identification with a group) to refugees based on this exposition. This seems to be the strongest way that the argument from membership can be fulfilled – if the case at hand satisfied the conditions for most, or all, variants of the argument from membership. As a result of potentially fulfilling all of the different variants of the argument from membership, proponents argue that refugees do not just have *prima facie* obligations towards state, but also arguably that all of the political obligations that they have are strong, all-things-considered-type political obligations to the state.

Although the case put forth by the proponent for the argument from

membership against their opponents seems strong, it still does not account for an explanatory gap between having a sense of membership and actually having real political obligations towards the state that took in the refugees. This is especially damaging for the proponent for the argument from membership because they are committed to the sufficiency of felt membership alone for political obligations. The explanatory gap looks something like the following: it doesn't seem like just because an individual feels that she belongs to a particular society, that she then necessarily has political obligations to that society. Likewise, it seems like just because someone feels no political obligations towards a society, it might not entail that they actually do not have political obligations (Dagger, 108). Thus, it seems that membership alone cannot account for the generation of political obligations as "something extra must always be added" (Dagger, 112) for the argument to be sufficient. In the case of refugees, that "something extra" must be the presupposition that the refugees will regard the country that took them in as a "familial unit", or the assumption that the refugees will actively seek to construct and affirm an identity of one's position in their new society. For this reason, it would seem that the proponents for the argument from membership has to account for this explanatory gap to defend their position.

If the argument from membership does not provide a good account for strong political obligations of refugees towards the state that took them in, perhaps a better account would be the argument from fair play. According to Richard Dagger, the principle of fair play says that everyone who "participates in a just, mutually beneficial cooperative practice has an obligation to bear fair share of its burdens" (Dagger, 112). This means that if members are beneficiaries of the mutually cooperative practice and just society, then they would have to bear fair share of their burdens in return to the society – these burdens take the form of political obligations. These obligations are essentially obligations to obey the law. Political obligations take this form for Dagger because obeying the law is what is necessary to ensure the existence of the legal system, therefore being necessary to ensure continued benefits that arise from the cooperative enterprise. Moreover, the stipulation of a *just* society presupposes that there is no disproportionate (unequal distribution of) benefitting and burdening in that society as well. It is especially important that we are dealing with a just distribution of benefits and burdens because anything other than a just distribution would not allow us to reliably ascribe political obligations to people on the basis of their being beneficiaries of the state/legal system.

Assuming that the US society is indeed a "just, mutually beneficial cooperative practice", then it would seem at first glance that the refugees do have political obligations to the society. The reason for this assertion is because refugees who are in the US society are benefitting from the cooperative enterprise

that has been laid out by all members in the enterprise *as soon as they arrive* in the U.S. These refugees benefit from the protection, shelter and food supplies, to name a few, that the US provides when they first arrive. Hence, according to the principle of fair play, as recipients of benefits from the US society, the refugees should take up their fair share of burden (political obligation) to the state.

Moreover, one might argue further for the case that refugees have strong, all-things-considered-type political obligations to the state based on the principle of fair play especially if they are gainfully employed in the country. In line with the US Citizenship and Immigration Services guidelines for employment permission, a refugee is allowed to work upon granted asylum or allowed to apply for employment authorisation 150 days after a filed complete asylum application with no decisions made on the application. With this rule in place, refugees are allowed to seek jobs in order to provide for themselves and their family (if any). As the grounds for political obligation are well met based on the exposition above, it would appear that the argument from fair play does point out that refugees in the US do seem to have strong, all-things-considered-type political obligations to the state.

Despite the apparent appeal of the principle of fair play providing sufficient grounds for refugees in the US having political obligations to the state, the reality of the situation might tell us otherwise. If a refugee is unduly marginalised or discriminated against by the policies and actions of members of the society or even the ruling body of the society, then it would be hard to justify the claim, on fair play, that the refugee has political obligations to the state. This is because such marginalization may be sufficient to badly diminish the benefits the refugee derives from the state, and may even compromise the equitable distribution of benefits and burdens – we may no longer be dealing with a just state. The relevant question to ask then is, "In reality, are refugees exploited by the countries they seek asylum in?"

In view of the current Syrian refugee crisis, CNN political commentator and American lawyer Sally Kohn has written an article in Quartz, a digital news outlet, stating the various ways that the US has shown in history that it has not had the best attitudes and actions towards refugees and migrants. These include detainments, mistreatment and discrimination (e.g. anti-Semitism) towards these migrants and refugees (Kohn). Her view that countries treat refugees badly is echoed in the news reports of Syrian refugees being exploited throughout the world. Human Rights Watch, an international non-governmental organisation that conducts research and advocacy on human rights, has reported in 2013 that Syrian women refugees in Lebanon are facing physical harassment and sexual exploitation from "employers, landlords, and even faith-based aid distributors"

(Human Rights Watch). The International Business Times has also reported that Syrian refugees in Turkey are now "working illegally in exploitive conditions without legal recourse" due to the current political and economic climate in Turkey (Kaplan). Included in the report is an interview with an Amnesty International representative that gave an account of how a majority of the Syrian refugees' children in Turkey are not given the opportunity to go to school and how the Syrians are living in conditions that are not suitable for humans. These cases of discrimination and exploitation of refugees are not limited to the Syrian crisis. A quick perusal through world news would make a persuasive case for the claim that are various points in time, and in various countries, refugees have almost consistently been subjected to oppressive rules and exploitation.

Therefore, because of the marginalisation of refugees across the world, it would be hard for a proponent of fair play to say that these individuals are beneficiaries of society and thus should bear their fair share of burden. Consequently, it seems that the argument from fair play cannot justify ascribing political obligations to refugees, because fair play conditions for political obligations are unmet by the real-life state of affairs.

In contrast to refugees, it appears that the argument from membership and fair play arguments would be much more applicable to citizens of the state. For the account of political obligation on grounds of membership, US citizens bear the official designation of membership of the country – the right to possess a US passport – and thus can be said to be official members of society. Again, although this may not be so meaningful for the proponent for the argument from membership, it might seem to the common man that this would be an important heuristic to ascribe proper membership. Furthermore, having been in the American society for a considerable amount of time, these citizens can be said to have been immersed in the American culture and understand the nuances that weave the social fabric of society. Through participation in different aspects society, be it education or the economic workforce, US citizens actively carve out their own identities, identities that importantly consist in felt membership in the US, through discovering one's position in society. In addition, this participation also allows citizens to understand the different social norms that are inherent in their culture via social interaction with their peers. In all, this seems to fit an account for a strong, all-things-considered-type political obligation as the grounds for political obligation are well met based on the argument from membership as it fits the three variants of membership – both passive and acute membership and membership from identifying with in-built social norms.

Upon closer scrutiny, however, the argument from membership might not be as convincing as it initially seems. As elaborated earlier, the fundamental

obstacle for ascribing political obligations to individuals on the basis of membership is that we are still lacking in a clear explanation as to why membership does give rise to political obligations. Due to this concern with the argument, if US citizens do have political obligations to the state, it would not be grounded based on the idea of membership.

Therefore, we have to look to the principle of fair play to see if it provides sufficient grounds for political obligations of US citizens. For the majority of US citizens, they have lived in and enjoyed the benefits that the US has provided them for most of their lives. This includes the protection that the US provides, as well as providing education and eventually employment for citizens of the US. Having benefitted from the system their entire lives, Dagger would assert that the US citizen has to bear his or her fair share of burden by contributing back to the system. This is to ensure that the cooperative enterprise that the US has fostered continues to be sustainable by ensuring that it is not the case where there is disproportionate benefitting and burdening of certain individuals. Having said that, one needs to understand that fairness in Dagger's interpretation does not require equality in every aspect, it would just need the individual's benefits to aggregately work out to equate to the burdens he or she bears; one could think of it as equity. In this respect, the proponent for the principle of fair play has a strong argument as it provides sufficient reason for one to assert that US citizens do have a strong, all-things-considered-type political obligation to the country.

In consideration of all the arguments that I have highlighted in this paper, it is evident that there is a strong case for an all-things-considered-type political obligation of US citizens to their country based on the argument from fair play. By being beneficiaries of a political and legal system that provided them education, gainful employment and suitable environment to grow up in, there is then sufficient reason to see why the individual is beholden to the state and should therefore have an all-things-considered-type political obligation. On the other hand, there is no clear case for a refugee to have an all-things-considered-type political obligation to the US based on either the argument from membership or the argument from fair play due to an explanatory gap between membership and political obligations, discrimination or exploitation. At best, I assert that the refugee only has *prima facie* political obligations to the US arising from prudential and practical considerations on the part of the refugee, such as the desire not to be deported from the US, among other reasons. Until a time where proponents for the argument from membership can provide a satisfactory account of the link between membership and political obligations, or a time where refugees are no longer exploited or discriminated by the society they enter, I argue that refugees would not have a strong, all-things-considered-type political obligations to the state, and merely *prima facie*, prudential political obligations as a matter of self-interest.

BIBLIOGRAPHY

Dagger, R. "Membership, Fair Play, and Political Obligation." Political Studies 48, no. 1 (2000): 104-17. Accessed October 10, 2015. Wiley Online Library.

"Refugees & Asylum." USCIS. June 16, 2015. Accessed October 10, 2015. http://www.uscis.gov/humanitarian/refugees-asylum.

"The Most Persecuted People on Earth?" The Economist. June 13, 2015. Accessed October 10, 2015. http://www.economist.com/news/asia/21654124-myanmars-muslim-minority-have-been-attacked-impunity-stripped-vote-and-driven.

"Why Are the Rohingya Fleeing Myanmar?" Amnesty International USA. May 28, 2015. Accessed October 10, 2015. http://blog.amnestyusa.org/asia/why-are-the-rohingya-fleeing-myanmar/.

Hamling, Amie. "Rohingya People: The Most Persecuted Refugees in the World." Amnesty Australia. October 07, 2015. Accessed October 10, 2015. http://www.amnesty.org.au/refugees/comments/35290/.

"Learn About the Asylum Application Process." USCIS. August 06, 2015. Accessed October 10, 2015. http://www.uscis.gov/humanitarian/refugees-asylum/asylum.

Kohn, Sally. "America's Response to the Refugee Crisis Reflects the Worst of Its past." Quartz. September 11, 2015. Accessed October 10, 2015. http://qz.com/500440/americas-response-to-the-refugee-crisis-reflects-the-worst-of-its-past/.

"Lebanon: Women Refugees From Syria Harassed, Exploited." Human Rights Watch. November 26, 2013. Accessed October 10, 2015. https://www.hrw.org/news/2013/11/26/lebanon-women-refugees-syria-harassed-exploited.

Kaplan, Michael. "Syrian Refugees In Turkey Face Exploitation, Despair As War Lingers

At Home." International Business Times. September 24, 2015. Accessed October 10, 2015. http://www.ibtimes.com/syrian-refugees-turkey-face-exploita-tion-despair-war-lingers-home-2110849.