How to (dis)solve the Gamer's Dilemma

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Abstract

The Gamer's Dilemma challenges us to find a distinction between virtual murder and virtual pedophilia. Without such a distinction, we are forced to conclude that either both actions are morally acceptable or that both should be morally illicit. This paper argues that the best way to solve the dilemma is, in one sense, to dissolve it. The Gamer's Dilemma rests on a misunderstanding in the sense that it does not distinguish between the effects that the *form* of a simulation can have on moral judgment apart from its surface *content*. A greater appreciation of the way structural features of a simulation affect subject experience will help us see why only simulations of murder and pedophilia generating virtually real experiences are likely to be seen as wrong. I argue that a simulation's structural elements powerfully affect how subjects *experience* simulated content and hence is an important, and previously neglected, variable necessary to dissolve the Gamer's Dilemma. Properly understood, virtually real simulations of murder and pedophilia are both likely to be treated by players as morally wrong. Similarly, virtually unreal murder and pedophilia will be less likely to be judged as wrong. Subject judgments are thus consistent once a simulation's structural variables are accounted for. The Gamer's Dilemma dissolves as a dilemma once we acknowledge these structural features of simulations and how they affect experience and moral judgment.

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The Gamer's Dilemma challenges us to find a distinction between different types of simulated wrongdoings. The dilemma owes its origins to philosopher Morgan Luck (2009) who noted that simulations routinely ask their subjects to kill virtual agents and to sometimes engage in virtual genocide. However, Luck claimed that virtual murders like these were rarely seen as morally wrong by those engaging with the simulations where they take place.[1] Contrasting virtual murder against virtual pedophilia, Luck argued that players of such games faced a dilemma (The Gamer's Dilemma): can they show that virtual murder is not wrong for them to act out while simultaneously showing why virtual pedophilia *is* wrong to act out? If players can't then, Luck argued, they must either accept that virtual pedophilia is not wrong (making their judgments about virtual pedophilia equivalent to their judgments about virtual murder) or conclude that virtual murder is in fact wrong (bringing their judgments about virtual murder in line with judgments about virtual pedophilia).[2]

In this paper, I argue that the Gamer's Dilemma is no dilemma at all. I will show that once we better understand the psycholgoy of virtual experience and moral judgment, that subjects undergoing virtually real experiences of murder will judge that such murders are wrong for many of the same reasons as real experiences of murder. By the same token, subjects undergoing virtually unreal experiences of murder will likely judge them as not uniquely problematic (though they may be wrong for other reasons). The same will go, I'll argue, for virtual experiences of pedophilic acts. The argument will turn on my analysis of how the structural features of a simulation impact user experience. More specifically, on how the structure of a simulation impacts that simulation's likelihood of generating what I will call "virtually real experiences." A virtually real experience, in this context, is an experience that is treated *as if* it were real in the moment by the experiencing subject (Ramirez 2018). It is to these experiences that we should pay attention. Once accounted for, the apparently conflicting intuitions that lay at the heart of the dilemma will not actually conflict.

In other words, the reason why virtual murders are often judged to be morally benign by those acting them out is because simulations containing virtual murder are rarely structured to produce virtually real experiences. The reverse, I'll suggest, is true for simulations of pedophilia. Given the nature of pedophilia, especially that such simulatiosn are normally sold as erotica, virtual simulations of pedophilic acts are almost always structured so as to produce virtually real experiences. It is for these structural reasons that depictions of virtual pedophilia are almost always judged to be morally wrong. The conflict at the heart of the Gamer's Dilemma arises out of a misunderstanding of how a simulation's *structure* impacts a subject's moral experiences of virtual wrongs. Once properly understood, the conflicting intuitions, and the dilemma, evaporate.

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[1] Despite the alleged strength of this intuition, some philosophers have also argued that virtual murder is morally wrong (see Tillson 2018; McCormack 2001). I use the term subject here, and throughout the paper, to refer to the individual who is the experiencing subject of some simulation's content. In some cases, this might be the player of a game, in other cases it might be a test subject in an experiment, in yet other cases it might be the designer of the simulation. What matters, for our and for Luck's purposes, are the moral judgments such subjects make about their experiences of simulated wrongdoing. I thank an anonymous reviewer for asking me to be clearer about my use of this term.

[2] A third possibility, of course, is that we are irrational with respect to these moral responses. While there exists a large psychological literature on this kind of social intuitionist response (Haidt 2001; Haidt 2003), I will sidestep this response to the dilemma in this paper. I thank Philip Cori for pushing me on this line of argument.

1 The Gamer's Dilemma

Luck challenges us to find a distinction between some virtual wrongs (like murder) and other virtual wrongs (like pedophilia):

> Unless such players can identify a morally relevant distinction between virtual murder and virtual paedophilia, they must either accept that committing virtual paedophilia is morally permissible, or that they themselves have often committed morally prohibited acts. (Luck 2009, 32)

Traditionally, the Gamer's Dilemma is treated it as a genuine dilemma requiring some kind of reflective equilibrium. One family of response to Luck's dilemma has been to reject the all-or-nothing approach to our intuitions about virtual wrongs seemingly called for and to attempt a finer-grained analysis of the moral psychology of virtual wrongness (Ali 2015).[3] Others have argued that virtual murder is permissible and virtual pedophilia impermissible due to societal attitudes about different kinds of virtual actions (Young 2016). The most common approach to the dilemma has accepted Luck's challenge to find a morally relevant distinction between virtual murder and virtual pedophilia (Bartel 2012; Partridge 2013; Young 2016) however some authors have gone in the other direction and claimed that virtual murder is in fact wrong (Tillson 2018).

These approaches, I argue, concede too much to Luck though to see why requires argument. Let's turn first to how Luck defines virtual murder and pedophilia:

> A player commits an act of virtual murder in those cases where he directs his character to kill another in circumstances such that, were the game environment actual, the actions of his character would constitute actual murder. (2009, 31)

We should pause here to ask questions about what Luck means when he asks us to imagine that a game's environment were made "actual" as how we parse this sentence may point us in several different directions.[4] To his credit, Luck provides us with a fairly clear example about what he has in mind when it comes to virtual murder: "for our purposes we shall focus on those computer games, such as *Grand Theft Auto*, where clear instances of virtual murder are apparent" (32). Whatever sense of being made actual Luck has in mind is thus compatible with taking simulations like the *Grand Theft Auto* franchise as paradigm cases. I'll say much more about the relevance of simulated violence, especially as it pertains to *Grand Theft Auto*, near the end of the paper. Luck's definition of virtual pedophilia is similar to his account of virtual murder:

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[3] In Rami Ali's (2015) case, he focuses his analysis on the narrative contexts that acts of simulated violence and pedophilia take place in to argue that some virtual murders may be wrong in certain contexts, those taking place in what Ali calls a 'simulation' game, while virtual pedophilia may be morally benign in others depending on whether it is possible to appropriately engage with a simulation's narrative. He too offers a dissolution argument, one I believe compatible with my own. While Ali's narrative analysis helps to show one way in which the Gamer's Dilemma oversimplifies moral contexts, the approach I develop here focuses less on the normative features of a virtual narrative and instead on the psychological, behavioral, and phenomenological features of virtual experience.

[4] Davis (2012) for example, argues quite forcefully that we should take phrases like "were the game environment actual" seriously (many game environments, he would argue, are impossible to actualize) and hence many instances of putative virtual murder might be impossible to actualize.

A player commits an act of virtual paedophilia in those cases where she directs her character to molest another in circumstances such, were the game environment actual, her character would be deemed a paedophile. (2009, 32)

We can again pause to take issue with Luck's characterizations of virtual murder and virtual pedophilia. Luck defines both terms in what can be thought of as a purely "semantic" way. What makes these definitions semantic is that they rely exclusively on the surface meanings of their virtual narratives and then asks the reader to imagine that these events actually happen. Such a definition can be overinclusive.

For example, it would seem to capture all manner of literary murder, imagined murder, and even theatrical murder as instances of virtual murder (if an actor *playing* Hamlet really did what the character Hamlet does they'd be a serial killer).[5] The same can be said of Luck's definition of pedophilia. Though not the first to raise such issues (Ali 2015), this definitional problem suggests that the Gamer's Dilemma stems from a poor characterization of the differences between real experiences and other sorts of experiences (written experiences, televised experiences, acting experiences, simulated experiences, and VR experiences).

Is the issue of semantic definitions important? What other options might Luck have appealed to when defining virtual murder and pedophilia? Here are two alternative accounts of virtual murder that might help us explain why the Gamer's Dilemma is poorly formed. Let's call the first Psychological Virtual Murder (PVM):

PVM: A player commits an act of psychological virtual murder in those cases where he directs his character to kill another and in which his decision affects him psychologically in the same way that a real decision to commit murder would.

PVM gets at something important to discussions of the nature of experience: how similar are a subject's expectations and reactions in a simulated world when compared to the experiences they have in the real world? If the answer is "not at all" then it might make sense to shrug off the comparison between simulated murders (writ large) and real murders. However, PVM is also incomplete as a definition. Experiences are at least partially determined by the conceptual structures subjects have at-hand and by how simulations engage their bodies (Cogburn and Silcox 2012; Noe 2004; Witt et al. 2014; Webster and Kay 2012). As a result, though PVM is a good start, it's too cerebral. Humans are embodied creatures and we need to take our bodies into account for a full understanding of how we shape and have experiences. For that reason, let's modify PVM

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[5] Historically, the term "virtual reality" was coined by Antonin Artaud to describe the phenomenology of playacting (Artaud 1958). Actors and audiences were said to share a "virtual reality" where a story's events take place. Much as we said with respect to an actor playing Hamlet, the same can be said of actors playing the roles of Aaron or Demetrius in Shakespeare's *Titus Andronicus*. They would be guilty of committing virtual rape and battery as a result of playing these roles. That *Titus Andronicus* is still in production (and does not seem to generate the kind of controversy that games involving murder, sexual assault, or pedophilia generate) attests to the fact that Luck's definition is too inclusive to generate the Gamer's Dilemma. If these definitions are meant to generate conflicting intuitions about simulated murder and simulated pedophilia (or simulated sexual assault), then they appear to fail for theatrical simulations of sexual assault. In order to explain why *gamers* face seemingly conflicting intuition, we need to more clearly specify what it is about the experiences these simulations generate that makes the Gamer's Dilemma a dilemma for gamers. Luck's definitions, as they stand, can't do this.

by adding behavioral and physiological features to it. Let's call this definition 'Psychological and Behavioral Virtual Murder' (PBVM)[6]:

> PBVM: A player commits an act of virtual murder in those cases where she directs her character to kill another and in which her decision affects her psychologically, physiologically, and behaviorally in the same way that a real decision to commit murder would.

In order to see why PBVM offers us a better definition of virtual murder, we need to see why murder might be considered wrong in the non-virtual world. Murder can be wrong for many reasons. On the one hand, it might be wrong for its *effects* on others (it deprives the murdered person of continued life, it affects the deceased's loved ones, it might weaken the strength of a community's norms or ties, etc). Although these are compelling reasons for thinking that murder is wrong, I'll focus here on reasons that speak to the wrongness of murder that discuss how murder might affect the *wrongdoer*. I do this in order to make the case for the Gamer's Dilemma as strongly as possible - after all, virtual people are not harmed in simulations.[7]

Murder can affect a murderer in many ways. It might, for example, traumatize the murderer. Trauma can have long-lasting negative effects on a person's quality of life and hence murder can harm the murderer by traumatizing them. Murder might also be said to affect the murderer by altering their character in ways that are bad *for* the murderer. For example, commiting a murder can change a person either by bestowing vicious character traits on them or by affecting their action tendencies in negative ways. Lastly, murder might change, for the worse, how murderers *perceive* others. For example, it may make them more likely to perceive their fellow citizens in purely instrumental ways (as solutions to problems instead of as ends in themselves or as persons bearing intrinsic rights or deserving of respect). Insofar as virtual murders are to be defined in terms of their connection to actual murder, PBVM aims to capture the features of a virtual murder that include these psychological and behavioral elements of murder (real or virtual) about which we might worry.

If a simulation could generate PBVM in a person, for example, then *those* kinds of virtual murders might indeed merit special attention. After all, if an actor playing Hamlet underwent PBVM experiences while playing the role we would rightfully want to know (and make sure they're doing okay)!

What should matter to us, in other words, isn't finding a distinction between virtual murder and virtual pedophilia (depending on the cases, there may not one) but instead to better understand the nature of virtual experiences such that we can identify what it is *about* experiences of virtual murder or of pedophilia that make them objectionable when they are objectionable. Unlike Rami Ali's (2015) attempt to dissolve the Gamer's Dilemma, which focuses on how subjects engage with a simulation's narrative (appropriately or inappropriately), my approach in this paper focuses on how a simulation's distinctly structural features

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[6] Cogburn and Silcox (2012) distinguish between passive-VR (wherein a subject lacks any agency or control), semi-passive VR (wherein a subject makes choices but wherein the simulation does not physically engage the subject), and active VR (which requires agents to physically move-about a virtual space in order to interact with it) in recognition of the importance of embodiment to experience. These useful distinctions are in the spirit of moving from PVM to PBVM. The more modalities a simulation engages in a subject, the more likely they are to see their simulated experiences as like their real experiences. I expand on this point below when I discuss virtually real experiences.

[7] Though see Tillson (2018) for an argument that virtual murder of virtual persons can harm real persons.

impact a subject's moral experience of that simulation's content. Although narrative context plays a role in this analysis, the structural features of simulations I bring to light in this article have been neglected in the literature on the Gamer's Dilemma.

In the next section, I argue that a subject's moral experience of a simulated act will vary depending upon whether the simulation is structured to generate virtually real experiences for the subject. If a game generates a virtually real experience of murder then it will likely be judged as wrong by the subject. If a game generates a virtually real experience of pedophilia then it will likely also be judged as wrong by the same subject. Insofar as a simulation is structured so as to not produce virtually real murderous or pedophilic experiences then these acts will likely be experienced in more benign ways. In the next section, I expand on the questions of experience and virtual experience to help dissolve the dilemma.

2 Virtual Experiences

What is a virtual experience and how is it different from an everyday real-life experience? Both are experiences, clearly, meaning that they are had by someone and that there are phenomenological features and properties attributable to them. Experiences, at least for our purposes with respect to the Gamer's Dilemma, are virtual insofar as they are produced by simulations instead of by the world. In that sense, dream experiences are simulated experiences as are imagined experiences. However, such experiences *rarely* have the complex and consistent imagery and structure of our real life experiences (Chalmers 2017).[8] In this section, I focus on virtual experiences generated by simulations of several sorts (games, virtual reality, etc.).

In that context, I argue that we have good reason to think that neither the *content* of an experience nor a subject's mode of engaging with a simulation's narrative are the sole determinants of a subject's judgments about the nature of virtual wrongdoing.[9] To see why the Gamer's Dilemma rests on a misunderstanding about the nature of simulated experience, we must better understand these experiences. In this section I lay out some constituents of virtually real experiences. These constituents, I argue, have not only been largely ignored when it comes to discussions of simulated wrongdoing, attending to them help explain why the Gamer's Dilemma is a pseudo dilemma.

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[8] Indeed David Chalmers (2017) argues that, in some rare cases of lucid dreaming, that dream events can be real in much the same way that real events can be real and virtual events can be real. Though Chalmers does not use the terminology of perspectival fidelity, context-realism, or virtually real experience, he does appear to be speaking about lucid dreams having the potential, in rare instances, to be experienced as virtually real by dreamers. In other cases, however, lucid dreams may not be virtually real. If we know we are dreaming, then we don't treat those experiences in the same way we sometimes do when we have dreams that feel real to us and for which we are delighted (or saddened or worried or confused) to wake up from.

[9] For example, there is limited, though telling, evidence that a person's relative possession of specific psychological and characterological dispositions can impact how they respond to virtual experiences. The degree to which a subject possesses the "Big Five" personality traits of narcissism, agreeableness, and openness to experience can affect the degree to which they are able to immerse themselves in an experience (de Raad and Perugini 2002; Weibel et al. 2010). Additionally, there is good evidence that the degree to which a person tends to dissociate from experience more generally can impact, sometimes radically, how they are affected by virtual experiences (Seligmann and Kirmayer 2008; Snodgrass 2004; Aardema et al. 2010). Data is still sparse, and subject to replication doubts, but if such results hold out, then it suggests that individual psychological dispositions must be a part of any argument that explains (or explains away) the Gamer's Dilemma.

One of the most common ways psychologists discuss the degree to which an experience gives a subject the feeling of "being" in a virtual space is in terms of what they call "presence" (Cummings and Bailenson 2016).[10] Presence is sometimes defined as "the sense of being in a [virtual environment] rather than the place in which the participant's body is actually located" (Sanchez-Vives and Slater 2005). Although presence is an important element of virtually real experience, there are good reasons for thinking that experiences high in presence are not necessarily also virtually real experiences (Ramirez and LaBarge 2018). That is, while presence may be an important component of a virtually real experience, presence is not sufficient for virtually real experience on its own. For example, in many first-person shooter games, subjects may often feel highly present (rising to a peak in virtual reality first-person shooters). They may, for example, move rapidly from side-to-side to escape virtual gunfire or crane their necks to look over virtual corners. Both behaviors are often used as behavioral markers of presence (Sanchez-Vives and Slater 2005).

However, as Luck himself notes, people are rarely traumatized by what they do in first-person shooters. If presence and virtually real experiences were entirely equivalent, we would expect subjects to feel more trauma than they report feeling when playing such games. Despite this, virtually real experiences must, by definition, contain a high degree of presence (subjects of these experiences must feel as if they are located in the virtual environment) though not all highly present experiences will also be virtually real ones (for the reasons outlined above).

The kind of moral offense that the Gamer's Dilemma rests upon requires more than a feeling of presence. It requires that subjects feel *as if* they are actually engaging in their simulated actions. The idea of someone undergoing an "as if" experience can be understood in several ways. For example, it might indicate some understanding on the part of the subject that the experience is *not* real; it might also indicate that the experience is behaviorally or physiologically different from its real life counterpart. Acrophobic subjects experiencing a simulation of very high spaces, for example, may assent to the truth of the sentence "I am safe in my apartment;" however, if the same subject's heart is racing, if their palms are sweating, or if other markers of high anxiety are evident (increased blood pressure, high arousal measured via skin conductance, etc), then we have some evidence for thinking that the subject is undergoing more than a highly present experience; under that description, the subject is likely having a virtually real experience and that experience is likely triggering their acrophobia.[11]

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[10] Much of what I say in this section draws from psychological and neuroscientific research on moral judgment and virtual reality experiments. All of the claims herein should be considered tentative and empirically falsifiable. It's entirely possible that some features that I claim important to the generation of a virtually real experience (e.g., moderate reasons-responsiveness) may not end up being so critical in the first place. For example, many early researchers of presence were surprised at how small a role photo-realism plays in creation the illusion of presence for virtual environments. I thank an anonymous reviewer for pressing me on this matter.

[11] I have in mind here something like Ritchie's Plank Experience (Toast 2018) which simulates walking off of a tall highrise building onto a wooden plank. The illusion, at least in this author's experience, can prove overwhelming and very convincing. In this sense, virtually real experiences are often differentiated from their real-life counterparts because these differences between cognitive and physiological responses are more apt to occur. They are not a defining feature of such experiences, however. David Chalmers (2017) offers examples of the sorts of utterances that experienced VR subjects may truly assent to ("there is a table in front of me") despite the fact that their experiences are simulated.

What causes a participant in a simulation to interpret their experiences as virtually real? I argue that the best evidence available suggests that there are two important features of a simulation that make it more or less likely to generate these virtually real experience.[12] On the one hand, features that play a role in constructing a simulation's point-of-view influence the likelihood that the simulation will generate virtually real experiences. I refer to these features as speaking to the "perspectival fidelity" of a simulation. These features denote the degree to which the perspective provided by a simulation represents (i.e., coheres with) the perspective of the subject using the simulation.[13] The higher the perspectival fidelity of a simulation, the more likely that simulation is to produce virtually real experiences in the subject.

For example, perspectival fidelity includes things like whether or not a subject's experience is screen-bound (as opposed to filling the subject's field-of-view as it would with a VR headset). It also includes the refresh rates of the display along with other hardware features like the audio quality of a simulation. As might be obvious, a first-person simulation has greater perspectival fidelity than a third-person simulation.[14] As we noted when shifting from PVM to PBVM to define virtual murder, embodiment matters with respect to how we perceive simulated experiences. Control inputs thus also play a role in assessing a simulation's degree of perspectival fidelity. A simulation where subjects actually swing their arms to hit a baseball is more perspectively faithful than one where they press a button to accomplish the same task (Cogburn and Silcox 2012; Stone 2000; Jayaraj et al. 2018). Simulated features that detract from a simulation's perspectival fidelity are more likely to intrude on the simulated experience itself and make it less likely that subjects will confront their experiences *as if* they were real.[15]

Additionally, a simulation that includes purely diegetic sound is higher in perspectival fidelity than one that does not. Non-diegetic sounds are highly unusual elements of neurotypical experience. They are, however, very common in simulated experiences and games. Simulations that include graphical meta-informational displays are, for the same reason, less perspectively faithful than those that do not (Ramirez and LaBarge 2018). Simulations that include meta-information, non-diegetic soundtracks, or voiceover are thus less likely, for those reasons, to generate virtually real experiences in their subjects even if the experience such a simulation generates includes the feeling of presence. These design elements are likely to draw a subject's attention to the artificiality of the simulation and hence will make them less likely to generate experiences their subjects treat as if they were really happening.

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[12] As noted earlier, a subject's psychological traits likely form a third axis if we want to explain why a particular subject experienced a simulation as virtually real. However, in the context of the Gamer's Dilemma, I stress the two axes that simulation designers have control over. I do this in part because Luck frames the Gamer's Dilemma in a general way. If the dilemmas only arose as a result of idiosyncratic features of user psychology, the Dilemma would not apply so widely.

[13] By definition, individual perspectives are subjective. For example, subjects who are red-green colorblind have a different way of experiencing the world than those who are tetrachromats and both will see the world different than those who are neurotypical. That being said, this kind of subjectivity is limited by biology to a certain extent and, statistically speaking, neurotypical observers share a large overlapping mode of perceiving their world. The concept of perspectival fidelity does not assume neurotypicality. To say that a simulation is perspectivally faithful is always to say that it is perspectivally faithful to a particular observer given their modes of perceiving the world. When I speak here of the elements that make a simulation more or less perspectivally faithful, I speak in some sense to the overlapping general features of human perception that unite neurotypical modes of perceiving.

[14] This seems true for highly present experiences as well (Sanchez-Vives & Slater 2005).

[15] Heavy head-mounted displays can reduce perspectival fidelity, for example, if a subject becomes aware of them while in the middle of an experience. When hardware, or other perspectival elements, intrude on the nature of a virtual experience, perspectival fidelity is diminished. In doing so, they may also impact context-realism (if only in the sense that it forms an unusual aspect of our virtual experience unlike real experience).

Although perspectival fidelity focuses largely on structural design elements of a simulation, a simulation's narrative features also affect whether or not it is likely to produce virtually real experiences. Narrative features can add or detract from a simulation's degree of context-realism. Context-realism refers to the degree to which the rules of a simulated universe cohere with the rules that a subject believes the actual world is governed by.[16] While context-realism and perspectival fidelity are related, they function as separate dimensions when discussing simulation design.[17][18] For example, a simulation is more context-real if it does not allow its user to fly unassisted or to survive falls or other injuries that would normally kill a person. This means that many first-person shooter games are less context-real than they might otherwise appear. Additionally, such games typically also have money or other items useful to the player to emerge from the bodies of defeated foes (further diminishing the context-realism of the game/simulation).

A simulation's setting is also apt to affect its degree of context-realism. For example, a simulation set in the present-day is more context-real than one set in a medieval kingdom, a fantasy realm, or in the distant future. These settings are not a part of the lived-experience of nearly all users and thus would not cohere with our expectations for how the world behaves. Encountering them in a simulated context is thus apt to signal to the subject that the experience is "just a game," "not real," and hence to diminish the degree to which such experiences are likely to be treated as if they were real.[19]

In the context of the Gamer's Dilemma, an especially relevant aspect of context-realism refers to the degree to which virtual agents act like real-world agents (Ramirez and LaBarge 2018; Zendle et al. 2018).[20] A simulation that contains virtual agents demonstrating (or providing a convincing illusion of) what some have called "moderate responsiveness to reason" (Fischer and Ravizza 1998) is more context-real than one that does not. A virtual agent demonstrates moderate receptivity to reason if they appear to act in ways that are comprehensible and realistic given their putative values.[21] A simulation that contains such

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[16] This also makes context-realism somewhat subjective. Someone playing a game set in the middle of the zombie apocalypse will find that that setting reduces the context-realism of the simulation if they think that the zombie apocalypse is impossible. They will find it *more* context-real if they believe that the zombie apocalypse is a real possibility.

[17] For example, non-diegetic voice-over can detract from both the perspectival fidelity of a simulation (it diminishes the degree to which that simulation presents the subject with an accurate representation of their own real-world experience) and also diminishes a simulation's context-realism (by diminishing the degree to which the rules of the simulated world cohere with the rules of the real-world as the subject understands them).

[18] There is another element here that seems to impact the degree to which a simulation can generate a virtually real experience in a subject that research seems to suggest is important. Specifically, I earlier mentioned subject-side elements that could be relevant to explaining a person's reaction to simulated experience. Chief among these are a subject's susceptibility to dissociate from experience more generally. Susceptibility to dissociation is a spectrum capacity, we all have it to some degree-rising to its highest expression for those with Dissociative Identity Disorder (APA 2013). I thank an anonymous reviewer and Miles Elliott for pushing me on this issue.

[19] Though here too there is an element of individual subjectivity. Subjects who genuinely believed, for example, that they lived a past life in medieval England may find a simulation set during that time and place more context-real than someone who did not think this (or who thought it impossible). This is yet another subject-side feature that we believe ought to wash out if the Gamer's Dilemma is meant to apply generally, to most subjects.

[20] Behavioral realism appears much more important, when it comes to virtually real experience, than photo-realism (Slater et al. 2006; Zendle et al. 2018; Sanchez-Vives and Slater 2005)

[21] In other words, such agents behave according to what should be "an understandable pattern of (actual and hypothetical) reasons-receptivity" (Fischer and Ravizza 1998, 71). Understandable, in this context, implies that such behavior flows reasonably if one considers an agent's end and the means available to them. It should be clear that, on this understanding, very few simulated non-player characters would score highly on this aspect of context-realism.

virtual agents is more likely, on that basis, to generate virtually real experiences than a simulation containing robotic or static virtual agents.

We have at least some evidence to think that perspectival fidelity and context-realism really do play important roles in how we understand virtual experiences. Mel Slater et al. (2006) for example, recreated Stanley Milgram's (1963) famous obedience study using a simulated virtual reality laboratory. Slater took care to recreate his simulated environment in perspectivally faithful and context-real ways. Subjects wore a VR head-mounted device and were seated in a desk facing a virtual "learner." They were then instructed on how to use a real-life analogue of Milgram's (1963) shock panel; in all other respects, Milgram's original methodology was recreated and subjects used a real (i.e., physical) set of switches to shock a virtual learner. The virtual learner, importantly, behaved in context-real ways when receiving increasingly painful shocks (e.g., voiced by an actor, the virtual learner complained realistically when receiving shocks, squirmed in her seat, and asked the experimenter to stop the experiment). In line with predictions, subjects in Slater's study replicated Milgram's original behavioral results (⅔ of Slater's subjects complied with suggestions to deliver the highest shocks). They also, importantly, demonstrated significant distress while carrying out the experiment (Slater et al. 2006). It is likely, in other words, that subjects in Slater's study had PBVM experiences while carrying out the study (much as Milgram's original participants did).

As further evidence that perspectival fidelity and context-realism play an important role in generating virtually real experiences, we can compare the PBVM experiences of Slater et al.'s subjects with subjects in studies whose simulations were not designed to produce virtually real experiences. Such studies do not appear to generate the virtually real experiences found in Slater's replication. For example, Injareed Patil et al. (2014) conducted a series of studies that ran subjects through several variations of the trolley problem. On Luck's definition, such simulations ought to also be clear cases of virtual murder. For example, in one variant, subjects in a junkyard had to drop a car onto either a single person or a group of five people. In another variant, subjects had to direct a flaming car into the path of a single walker or toward five others. In all cases, at least one virtual person would be killed. Unlike the respondents in Slater's study, however, Patil's scenarios lacked the structural design features that appeared to generate virtually real experiences in subjects (Ramirez 2018). Patil's subjects did not demonstrate the sorts of anxiety or concern that Slater et al.'s subjects displayed. Though Patil's simulations were higher in graphical realism, they were not only screen-bound (Slater used a virtual reality headset) but also radically lower in perspectival fidelity and context-realism.

For example, in Patil's version of the original trolley problem, subjects found themselves floating over a pair of train tracks in a context-unreal way (no explanation is provided to subjects for their presence near the tracks and no clear explanation is given to them for their puzzling floating location). From that position, subjects had to make the traditional trolley problem decision to either kill one or five virtual persons. Importantly, Patil's virtual persons behaved robotically. Despite the loud sounds coming from the train, for example, the virtual avatars did not display any indication that they understood their situation or even cared that their compatriots were in danger or had died. In Patil's junkyard variant of the trolley problem, virtual subjects remained motionless even as a large car hovered above their heads clearly threatening their lives. As noted previously, photo-realism does not appear to play much of a role in either a simulation's degree of presence or in terms of perspectival fidelity and context-realism. The behavior of virtual subjects, on the other hand, appears to play a much stronger role. Patil's virtual subjects, unlike Slater's virtual subject, demonstrated little receptivity to

reason. These design features speak to both the simulation's degree of context-realism and perspectival fidelity.

Despite the fact that Patil's subjects were killing virtual people, none of them displayed any of the troubling behavioral and physiological stress responses displayed by Slater's subjects. As a result of the structural features built into Patil's simulation, the simulation itself did not produce virtually real experiences in subjects. Like with most of Luck's examples of virtual murder, and unlike Slater's subjects, Patil's subjects did not seem to interpret their decisions as especially serious or problematic.

We can now see why PBVM is a better approach to defining virtual murder than Luck's approach. If what we care about when we ask why individuals judge that virtual actions are wrong is that those actions contain at least some of the same morally relevant features as their real-world equivalents, then PBVM can explain when and why virtual actions are likely to be seen as wrong.

The argument goes like this: a virtually real experience of murder is more likely to contain the same sorts of wrongs (the kind that harm the person doing the murdering) than those matching Luck's wider criteria for virtual murder. Similarly, a virtually real experience of pedophilia will likely be judged as wrong because it contains the same sorts of subject-affecting features that make actual instances of pedophilia wrong. Virtually unreal instances of simulated wrongs are less likely to be judged by a subject as wrong because they lack (some, many, most) of the subject-affecting features that make their real-life counterparts wrong. However, with a better understanding of how context-realism and perspectival fidelity work together to create virtually real experiences we can see how the Gamer's Dilemma can be dissolved as an artifact of the differences between how simulated wrongs are constructed and not as a dilemma that tracks our judgments about the nature of different categories of simulated wrongs.[22]

3 Dissolving the Dilemma

To dissolve the Gamer's Dilemma it's important to explain why it might arise in the first place. Why is it that it seems to many people that virtual murders are less problematic than virtual pedophilia or virtual rape? In this section I argue that this seeming dilemma arises from the fact

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[22] An additional element of my analysis, worth making explicit here, relates to dual-systems theories of moral judgment (Greene et al. 2001; Greene 2009). On these views, judgements about a moral dilemma track whether the dilemma itself takes on a "personal" or "impersonal" character. The classic cases here are the switch and bridge versions of the trolley problem. Although both present the subject with the option of saving five at the expense of killing one, the bridge version is a "personal" dilemma in the sense that it requires the subject to physically push someone onto the path of the train in order to save the five while the switch version is 'impersonal' in the sense that subjects must merely pull on a switch, from a distance, to achieve the same result. Sensitivity to the personal / impersonal distinction may also explain why moral judgments appear to conflict in cases of virtual murder and virtual pedophilia. Virtual murders are often impersonal in the sense that they are carried out in a mediated fashion (using guns or other distance weaponry) while virtual pedophilia is often highly personal in nature (though see Rami Ali's example below for an impersonal example). Thus the Gamer's Dilemma may often track the personal / impersonal nature of moral dilemmas instead of their simulated nature. I think such an analysis is only likely to *strengthen* the dissolution argument in the sense that our moral intuitions about virtual murder and virtual pedophilia are likely to be consistent once we hold a simulation's propensity to produce virtually real experiences constant while also holding constnat the nature of the dilemma itself (personal v. impersonal). I thank audiences at the 2019 Pacific Division meeting of the American Philosophical Association for their productive discussion of this issue.

that most simulations or games involving virtual murders typically represent those murders in highly context-unreal and perspectively faithful ways. The experiences such virtual murders generate are therefore very unlikely to be treated as if they were real by those experiencing them and thus are not likely to be judged as being wrong.

I argue that we can gather further evidence for this position by taking a closer look at one instance in which a potential simulated wrong appears to traumatize subjects of the simulation (and hence, pace Luck, provide us with an instance of virtual murder that many find morally wrong). Virtual pedophilic acts, on the other hand, are more likely to produce (and more likely to be designed to generate) virtually real experiences in their subjects and hence are more likely to be seen as wrong. Because virtually real simulated murders are also likely to be seen as wrong, or so I'll argue, the Gamer's Dilemma rests on a misunderstanding about the role of a simulation's structure on a subject's experience. Luck argues that the killings in the *Grand Theft Auto* series make for excellent examples of virtual murder (Luck 2009, 32). This example, I argue here, works to undermine his central claim.

Luck appealed to the *Grand Theft Auto* series as a paradigmatic example of virtual murder. Here, I subject that appeal to two critiques. On the one hand, nearly all of the gameplay in the series, including the killings which feature in Luck's dilemma, are constructed in ways that are low in perspectival fidelity and context-realism. As a result, subjects are unlikely to experience their virtual actions in the game as virtually real and hence are not apt to treat their actions as bearing much, if any, moral weight. On the other hand, in at least one instance, developers created a perspectivally faithful and context-real virtual wrong and, as my view predicts, subjects reacted very differently to this virtual wrong compared to the other virtual wrongs in the game. If this is right, then not only can we add further evidence to the argument against Luck's initial definition of virtual murder, we can bolster my claims that moral judgments of simulated wrongs track design features of a simulation rather than the content as considered in the abstract, as Luck does.

Let's turn first to the structural elements of the *Grand Theft Auto* franchise. The series' standard camera presents the subject with a third-person perspective roughly ten feet above the player-character (see Fig. 1). It also contains significant meta-information overlaid onto the subject's screen (i.e., displays for cash, ammunition, health, and a game-map). Non-diegetic sound effects and soundtracks are also common. These features, for reasons explained earlier, work together to diminish the degree of perspectival fidelity present in most *Grand Theft Auto* gameplay. In many instances, these decisions are likely intentional (structural elements of the simulation are built to facilitate gameplay and not to realistically recreate typical human perspectives).

In terms of context-realism, the *Grand Theft Auto* series fares just as poorly. The player-controlled characters in the series can survive an extraordinary amount of physical punishment including being shot, emerging unscathed from car accidents, and suffering other gross bodily harm. Indeed, the player-controlled character is functionally immortal (when players are "killed" their characters reappear near the closest hospital, minus a small amount of cash).

Additionally, players in the series exist within a world filled with robotic and often unresponsive virtual avatars. Nonplayer characters seem utterly indifferent to the existence of the player or his behavior (all player-controlled characters in the franchise are male). They lack, in other words, any noticeable degree of reasons-responsiveness beyond repeating scripted dialogue and behavior. Further detracting from the context-realism of the gameworld, cash and other aids frequently emerge out of the bodies of the dead which provide an in-game incentive for killing them.

Fig. 1 A screenshot of standard gameplay from *Grand Theft Auto 5*, Rockstar North (2013) ("from Vinewood with love," Vehicle & Weapon Customization, https://1.bp.blogspot.com/-U1CLF2EqoSE/Ud1who9 TPiI/AAAAAAAAALg/7n6aBYDT0c4/s640/weaopon.jpg)

Taken together, the gameplay of the *Grand Theft Auto* franchise is both low in perspectival fidelity and context-realism. It's little wonder that players don't experience these killings as morally objectionable when playing the game. *Grand Theft Auto* simulations are designed, in most cases for gameplay reasons, to avoid producing virtually real experiences in their players. As a result, players don't treat these experiences *as if* they were real. Their moral judgments, as a result of these design choices, don't have the same structure as their judgments of real-world murders. Insofar as most virtual killings are designed similarly to those in the *Grand Theft Auto* franchise, we ought to expect a rather flat moral response from subjects with respect to these kinds of virtual wrongs. Although this might appear to support Luck's initial formulation of his dilemma, we have some evidence for thinking that the opposite is true.

In line with my claims, and against Luck's original formulation of the Gamer's Dilemma, subject reactions are not always so benign even in the context of the *Grand Theft Auto* franchise and even for virtual wrongs less serious than killing. In the latest iteration of the *Grand Theft Auto* franchise, one particular mission so greatly disturbed subjects that it generated moral controversy:

> Dubbed "the most disturbing scene" in the game by the popular gaming site Eurogamer, the episode comes midway through a mission called "By The Book," which has players oscillate between two of the game's player characters — Trevor and Michael — as they work to hunt down a terrorist...Trevor chooses between using a variety of torture-friendly appliances like a wrench and electrified clamps to persuade the suspect into divulging more information...In one particularly ugly moment, the player makes a circular motion with the gamepad's joystick to wrench a tooth out of the suspect's mouth. (Lejacq 2013)

Why would a mission like this cause so much controversy in the context of a franchise containing virtual wrongs including virtual murder, the exploitation of sex workers, and armed robbery? If Luck is right, virtual murder (or torture) shouldn't be judged as especially morally problematic by most players. What makes the "By The Book" mission unique is that the perspectival fidelity and context-realism of the mission's torture scene are unlike anything else in the *Grand Theft Auto* universe.

During the torture sequence, the third-person perspective which players occupy for most of the game's runtime is replaced by a more intimate point-of-view. This view (Fig. 2) makes subjects feel as if they are in the room standing just behind or in front of their player-character, adding to the simulation's perspectival fidelity. Additionally, and importantly, all of the traditional meta-information associated with gameplay is removed from the screen (ammunition, health, cash, and map markers disappear from view for this scene). In lieu of these non-diegetic sources of information, subjects are given relevant information about their victim's status via the distinctly diegetic sounds of an EKG machine hooked up to their victim's chest. Subjects must take care to avoid killing their victim but must torture him enough to get his heart rate quite high in order to extract information from him.[23] Unlike the scores of virtual people killed by plays on other missions, the torture victim himself convincingly winces, screams in pain, and begs for mercy as the player tortures him. He responds, in this respect, quite similarly to Slater's virtual subject during his replication of Milgram's obedience studies.

Perspectival fidelity is further enhanced by modifying the control inputs for this mission. The "player makes a circular motion with the gamepad's joystick to wrench a tooth out of the suspect's mouth" thus mimicing the actual motions involved when using torture implements on their virtual victim. Contrasted against other violent game mechanics (subjects push a button to shoot a gun, stab with a knife, or fire a rocket launcher), the haptic feedback generated by this form of motor engagement also increases both the perspectival fidelity and context-realism of the simulation. As we saw with Mel Slater's (2006) replication of Stanley Milgram's obedience study (where subjects had to physically flip switches to deliver electric shock), haptic design elements in a simulation can radically alter its perspectival fidelity and context-realism and thus affect subject experience (Stone 2000).

The alterations made to the design of the "By The Book" make it more likely that this mission will generate virtually real experiences in players compared with other missions. It is *these features*, I claim, that made the scene so controversial for players. Player reactions to this mission also explain why so many virtual killings are not especially controversial: they don't generate virtually real experiences. It isn't, in other words, that

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[23] Importantly, we should note here that torture, especially the torture scenario subjects act out in the "By The Book" mission, is structured as a highly personal moral dilemma in Joshua Greene's (2009) sense of the term. Subject reactions may very well have been different had they merely to order the torture but not carry it out themselves (i.e., if it were constructed as an impersonal moral dilemma). As mentioned before, the personal / impersonal nature of a moral dilemma is likely to be an important variable in any analysis of moral judgment (actual or simulated). This dimension has yet to be given serious attention in the literature that has grown around the Gamer's Dilemma though for the reasons I have laid out here, we cannot afford to continue this omission. We generate a Gamer's Dilemma if and only if we hold the moral variables surrounding two simulated acts constant (e.g., virtual murder and virtual pedophilia) and examine whether our moral judgements about the cases diverge *purely because of their simulated nature*. Although my analysis focuses largely on the design elements of simulated dilemmas, it is worth paying serious attention to the personal / impersonal nature of a dilemma as well.

Fig. 2 A screenshot taken during the *"By the Book" mission* Rockstar North (2013) (B, Adam. "What's so special about games," Gaminglives, http://www.gaminglives.com/wp-content/uploads/whats_so_special_05.jpg)

subject's see all virtual killings as morally unproblematic. Subjects *will* see virtually real murders as problematic, as the "By The Book" mission demonstrates (and in line with PBVM), when a simulation's design is perspectively faithful and context-real. They will tend to react to these virtual actions *as if* they were real, at least in the moment.[24] On the other hand, they will tend to experience virtually unreal murders as morally benign. Luck's claim that virtual murders are seen as morally unproblematic thus rests on a misunderstanding about how subjects experience simulated murders. The benign nature of most judgments about the wrongness of virtual murder are not grounded in the fact that players treat virtual murders less seriosuly but in the fact that most virtual murders take place in the context of simulations whose deisgn makes them unlikely to generate virtually real experiences. The same explanation, I claim, can account for judgments about the wrongness of simulated pedophilia.

Simulations of pedophilia are more difficult to find. However, rape simulators are a well-known gaming sub-genre (Illusion Software 2006; Díez Gutiérrez 2014). Such simulators often feature women whose ages are difficult to discern, though they are usually depicted as being very young. These games may then count as pedophlia simulators on Luck's view. There does also appear to be a small cottage-industry of pedophilia-related gaming:

> Companies such as Mu-Soft, a Japanese company, pander to the eroticization of children with flash games like *Hizashi no Naka no Riaru*. The girl in *Hizashi* is clearly underage with a prepubescent body, innocent features, and childlike stature.

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[24] To be sure, there are elements to this simulation that keep it from being fully immersive (it is screen-bound and third-personal for example) and thus subjects avoid the sorts of extreme trauma some of Slater's (2006) subjects experienced.

The purpose of the game is to molest the girl the player is babysitting as she sleeps.
(Martinez and Manolovitz 2009, 3)

Simulations of pedophilia like *Hizashi no Naka no Riaru* can, like simulations of murder,
be objectionable for many reasons though as with murder, it's best to focus on those
harms that affect the person engaging the simulation instead of the virtual agents in it.
According to Luck, subjects are likely to judge such simulations are being morally
wrong in a way that demonstrates a seeming inconsistency with their judgments about
other virtual wrongs. Here I argue that, while true, that subject judgments about virtual
pedophilia, like their jugments about other virtual wrongs, are likely tracking features of
a simulation's design more than they point to a more serious disinction or inconsistency
between kinds of virtual moral wrongs.

Simulations of pedophilia, unlike simulations of murder (though like the torutre
simulation in the "By The Book" mission), are more likely to be designed so as to
sexually arouse their subjects with depictions of children than virtual murders are
designed to do.[25] Simulations of pedophilia are therefore likely to be constructed very
differently than simulations of murder. Most simulated pedophilia, but not most virtual
murder, is likely to aim at producing virtually real experiences in willing subjects (it is
more likely to succeed at generating psychological and behavioral responses that mimic
real-life experiences) and thus this feature of pedophilic simulations can explain the
seeming asymmetry of the judgments that ground the Gamer's Dilemma. Once these
design features are controlled for, the dilemma is less likely to arise.

We should, when engaging in an analysis of a simulation's likelihood of generating
moral approval or disapproval, distinguish from context-unreal perspectively unfaithful
simulations from those apt to generate virtually real experiences. Rami Ali (2015)
presents us with an example of what he believed would be a simulation containing
pedophilia that would fail to generate the Gamer's Dilemma. The example itself is, I
believe, instructive:

[C]onsider the possibility of a [simulation] depicting Kratos[26] committing pedo-
philia. The *God of War* games already contain scenes in which the gamer controls
Kratos as he has sex off-screen, and we can imagine that in this instance Kratos, by
way of cruelly punishing (as is typical of Kratos) a human colluding with the
Olympians, takes his young son or daughter and molests the child. There is no
question that what Kratos does is wrong. Yet is it equally clear that what the gamer
does is wrong? (Ali 2015, 272).

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[25] On the one hand, such games are marketed and sold as virtual erotica, providing some evidence as to their
design purpose. Additionally, there is some evidence (though it is mixed) that such simulations are experienced as
arousing by their players (Galbraith 2017). Neil Levy (2002), to provide another example, argues that while
virtual child pornography (i.e., context-real and perspectively faithful child pornography) does not harm existing
children that it nonetheless contains many of the same problematic features (eroticization of inequality) as actual
child pornography. Perspectively unfaithful and context-unreal child pornography may very well lack this
feature as well.

[26] Kratos is the chief protagonist of the *God of War* series of games.

Ali's response is that it isn't obvious that the subject does anything wrong in this sort of simulation.[27] I agree with his analysis, though believe that we can explain *why* this simulated act of pedophilic sex is likely to be experienced so *differently* from the simulated acts in *Hizashi*. Ali's example satisfies Luck's definition of virtual pedophilia but not our stricter conception of psychological and behavioral simulated pedophilia. This is because of how Ali imagines the *structural* features of his proposed simulation to work in the context of the game.

Not only is Ali's example occurring off-screen[28] (thus diminishing the perspectival fidelity of the simulation), it takes place in a Greek mythological setting in which subjects control a raging demigod able to engage in physically impossible actions containing non-diegetic sound, a third person perspective, and meta-informational screen overlays. These features would diminish the simulation's degrees of perspectival fidelity and context-realism. In a case like Ali's, the perspectival fidelity and context-realism of the simulation may be diminished enough so as to fail to produce virtually real experiences in players. As such, Ali's simulated pedophilic act would not lead to an obviously morally objectionable experience for subjects.

Hizashi, on the other hand, appears designed so as to generate virtually real experiences in its subjects. It invites subjects to take pleasure in visually molesting a child in a real-world context (babysitting) and setting (a domestic space). Additionally, *Hizashi* is a first-personal experience. Non-diegetic sounds are completely absent from the simulation (aside from the menu screen). The subject-controlled character does not have any superhuman powers or abilities. Indeed, the setting and context in which *Hizashi* takes place are unfortunately all too realistic. Such a simulation is, especially in comparison with Rami Ali's example or with the gameplay in the *Grand Theft Auto* series, more context-real and perspectivally faithful. It thus generates clear moral antagonism from most because of its propensity to generate virtually real experiences in its subjects.[29]

Though we may have concerns about the social consequences of rape simulators or simulations of pedophilia (Partridge 2013), such concerns rest entirely on difficult to assess empirical claims which Luck himself casts some doubt on:

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[27] In Ali's case, this is because the *God of War* series contains a narrative that can be "appropriately" engaged with. In other words, because Kratos' journey is ultimately not distinctly or entirely immoral, a subject can engage with the game's narrative, which includes immoral acts, without themselves doing something immoral. Where game narratives are distinctly immoral or where games lack any narrative at all (Ali refers to these as "simulation" games), virtual wrongs may arguably also be wrong for players to engage in.

[28] The shift to off-screen pedophilia also, likely, changes the moral dilemma from a personal one (where the subject must directly engage in pedophilic action) to an impersonal one (because the actions take place off-screen). It's partially an empirical question here whether the change from a personal to an impersonal dilemma or the other design features are primarily responsible for the shift in moral judgment in Ali's example. A further complication in this case is that the very feature that shifts the dilemma from personal to an impersonal is intrinsically bound up with the simulation's perspectival fidelity.

[29] Partridge (2013) has argued that simulations involving pedophilia are more context-real than those involving murders, at least for most of us. She claims that "[a pedophilic] game like this does possess representational details that make it more reasonable to see it as a reflection of our lived moral reality and less like a bit of "harmless fun." But, in what I am calling run-of-the-mill first person shooters, characters are not targeted in this kind of way, which makes it more reasonable to see run-of-the-mill first person shooters as a departure from rather than a reflection of real world moral concerns" (2013, 33). Indeed, it is likely because of the context-realism that grounds games like *Hizashi* and which are lacking in most gameplay in *Grand Theft Auto* that helps to explain why subjects respond differently to them. Indeed, Partridge goes on to say that "virtual murder too can be presented in such a way that reasonably connects it to our moral reality, it might also be subject to moral criticism" (ibid). I thank an anonymous reviewer for suggesting this connection with Patridge's work.

...this argument allows for situations where not committing acts of virtual paedophilia might be immoral. For example, imagine a person who has overwhelming urges to commit paedophilia. She can satisfy these urges if she were to indulge in virtual paedophilia. However, if she does not, she will be driven to commit acts of actual paedophilia. (Luck 2009, 33)

It would be better if we can find a way to explain the morally objectionable content of games like *Hizashi* without resorting to utilitarian arguments which can be overturned in unusual circumstances. Ramirez and LaBarge (Ramirez 2018; Ramirez and LaBarge 2018) have proposed and defended a principle they refer to as The Equivalence Principle (TEP):

> **TEP**: If it would be wrong to subject a person to an experience then it would be wrong to subject a person to a virtually real analogue of that experience. As a simulation's likelihood of generating virtually-real experiences increases, so too should the justification for the simulation.

Something like TEP is already working in the background of most normative theories. People find it plausible that relevantly similar cases should be dealt with similarly. Once we understand how perspectival fidelity and context-realism work together to affect the nature of virtual experiences, TEP is also a useful way of explaining away the problem with the Gamer's Dilemma and of addressing virtual ethics more generally.[30]

Subjects are likely appealing to something like TEP when they raise moral objection to the "By The Book" mission or to games like *Hizashi*. Their virtually real experiences of torture are leading them to treat virtual torture as at least roughly on par with more realistic experiences of torture. By the same token, virtually real experiences of pedophilia, like those offered by games like *Hizashi*, would therefore also be treated on par as real experiences of pedophilia by subjects.

Most simulations of murder, however, don't produce virtually real experiences because their structure makes it far less likely. Assuming that most instances of virtual murder follow the model of *Grand Theft Auto*, as Luck suggests, then such simulations contain too many deviations (usually intentionally created to facilitate gameplay) affecting the simulation's degrees of perspectival fidelity and context-realism. Most such simulations of murder fail to generate virtually real experiences in their players and it's likely that subjects, as a result, don't take such actions morally seriously. It's also likely that most simulations of pedophilia, given the intentions behind their production, are more likely to be perspectivally faithful and context-real and hence more likely to generate virtually real experience. Players of these games are thus more likely to treat their virtual actions *as if* they were real and their moral judgments about their virtual actions are apt to track this fact. For these reasons, it is understandable why many have thought that virtual pedophilia is immoral in a way that virtual murder is not.

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[30] I thank an anonymous reviewer for pushing me to clarify my position here with respect to the ethics of virtual wrongdoing. Insofar as I can, I wish to remain agnostic at the level of normative theory. TEP is a useful heuristic, however, for any normative theory that includes consistency as a value. If x is morally wrong at least in part for subject-affecting reasons under some normative theory y, then a virtually real experience of x is wrong in y for those same subject-affecting reasons. If there are purely victim-affecting reasons for thinking that x is morally wrong, then those are unlikely to translate to virtually real experiences of x except in very unusual circumstances (i.e., if the virtual victims are themselves artificially intelligent persons or other players capable of being affected by a subject's actions).

This doesn't mean that the Gamer's Dilemma captures a real conflict of intuitions about virtual harms. These intuitions rest on the aforementioned fact that virtual murders are almost always constructed in virtually unreal ways. A virtually real simulated murder is, I conjecture, likely to generate as much moral protest as virtually real simulated pedophilia and hence Gamer's dilemma dissolves once we understand these facts about simulated experience.[31,32]

4 Conclusion

Though the Gamer's Dilemma initially presents us with what looks like a genuine puzzle concerning moral judgments of simulated murder and simulated pedophilia, this dilemma rests on a misunderstanding. Once we become more acquainted with how simulated experiences are psychologically processed and with the role that a simulation's design plays in that process, we can dissolve the Gamer's Dilemma.

Virtually real murders are likely to be judged as wrong in much the same way as virtually real instances of pedophilia would be. By the same token, virtually unreal murders are likely to be judged as morally ambiguous in much the same way as simulations, like that proposed by Rami Ali, depicting virtually unreal pedophilia are. The Gamer's Dilemma arises when we confuse the fact that most virtual murders are structured so as to avoid generating virtually real experiences in subjects while most instances of virtual pedophilia are structured to produce them. Our seemingly asymmetric judgments, it turns out, are sensitive to these very important structural features of simulations. Controlling for these differences in construction dissolves the dilemma.

Philosophers, game designers, and psychologists would be wise to pay more attention to structural features when they design simulations in order to make sure both to avoid introducing new confounding variables in their experiments but also to avoid producing unintentional virtually real experiences and their concomitant harms.

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[31] This is even more true if we are careful to keep the nature of the dilemma (personal or impersonal) constant across cases.

[32] In order to rescue the Gamer's Dilemma, we would need evidence that players will have conflicting moral intuitions about virtual actions once we hold simulation design features like context-realism and perspectival fidelity constant. Such evidence would be a welcome addition to debates about virtual morality as they are likely to shed light on larger debates regarding the effects of virtual action on real-world behavior. Indeed, one reason why the literature on the effects of violent video games is mixed (Ferguson and Kilburn 2010; Huesmann 2010) may be that the effects of violent gaming will be different for context-real perspectively faithful games than for games less likely to generate virtually real experiences.

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