

Modern Action-Adventure FPS-s as Frankfurt-Type Examples: The *BioShock* Analogy and Its Limitations

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Introduction

BioShock (2007) and *BioShock Infinite* (2013) are critically acclaimed award-winning games. They revolve around perennial philosophical issues like freedom and determinism, moral responsibility, and so on. But they are also commentaries on modern action-adventure FPS-s. The narratives of both games are built around certain characteristic game mechanics and structural features of modern action-adventure first-person shooters (FPS-s), and make comments on player freedom and moral responsibility.¹ These comments can, by analogy, be extended to modern action-adventure FPS-s in general, and beyond.

The Problem of Free Will and Moral Responsibility

The question of freedom and moral responsibility belongs to the more general problem of free will and determinism. The controversy over free will spans science, religion, and philosophy; it includes questions about topics as diverse as the nature of the physical universe, crime and punishment, blameworthiness and responsibility as well as coercion and control. (Kane 2005: 1-2) To understand what is involved in *the free will problem*, let's consider its constituent components.

Two Aspects of the Free Will Problem

The free will problem has at least two aspects: the question of freedom, and the question of moral and legal responsibility. The former is concerned with the kind of freedom involved in the notion of free will; the latter is focused on the relationship between free will, accountability, blameworthiness, and praiseworthiness.

The Question of Freedom

What kind of freedom is at stake in the free will problem? It's not the freedom to travel anywhere or buy anything we want. The notion of "free will" is supposed to capture some deeper sense of "freedom" than these *surface freedoms*.

Generally, *freedom* is understood as the ability to act without external or internal constraints. This sense of freedom is related to *autonomy*. Common to different conceptions of autonomy

¹ The ideas presented in this paper about *BioShock* and *BioShock Infinite* were originally developed for a chapter in an upcoming book. See Laas (2015).

is the idea of self-rule. *Self-rule* involves two components: the capacity to rule oneself, and to do so on the basis of one's *authentic* desires, values, etc. *Authenticity* can be understood as an idea of freedom, the freedom of finding the design of one's life and certain aspects of one's character against the demands of external social and sometimes even moral conformity. (Cf. Taylor 1991: 67-68) Understood in this way, authenticity closely resembles the idea of *self-determining freedom*, although the two ideas are distinct. One enjoys self-determining freedom when, in deciding the nature of one's concerns, one is free from all external influences. (Ibid: 67, 27)

Thus we may say that one has free will if, among other things, one can freely and authentically self-determine the nature of one's concerns. It is the kind of freedom (whatever it ultimately is) that is necessary for conferring moral responsibility on agents.

The Question of Responsibility

To see relationship between free will and responsibility, consider the following example. Suppose Jones is on trial for killing Smith. As the prosecutor lays out the evidence, it turns out that the killing was gratuitous, done simply because Jones doesn't like Mondays. If killing or not killing remained an open possibility up to the point of making the choice to kill, then we would say that Jones is morally responsible and blameworthy for killing Smith. But suppose that Smith attacked Jones, and the latter had to use deadly force to defend his life. Under these circumstances, we would say that Jones is neither morally responsible nor blameworthy because he acted under compulsion.

This example rests on two commonsensical intuitions that seem to relate free will with moral and legal responsibility:

(C1) People should be held responsible for their actions unless there are exonerating circumstances.

(C2) Circumstances in which people are unable to act freely are exonerating. (Earman 1986: 236)

(C2) is also oftentimes called

(PAP) *The Principle of Alternate Possibilities*: a person is morally responsible for what he or she has done only if he or she could not have done otherwise. (Frankfurt 1969: 1)

PAP is widely accepted in philosophy, everyday deliberation, and legal reasoning.

The Threat of Determinism

If determinism is true, then PAP is false. And if PAP goes, then, many believe, so does moral responsibility. But what exactly is determinism? While different definitions have been proposed for different kinds of determinisms (causal, theological, logical), William James captures the underlying intuition aptly when he writes

What does determinism profess? It professes that those parts of the universe already laid down absolutely appoint and decree what the other parts shall

be. The future has no ambiguous possibilities hidden in its womb: the part we call the present is compatible with only one totality. Any other future complement than the one fixed from eternity is impossible. The whole is in each and every part, and welds it with the rest into an absolute unity, an iron block, in which there can be no equivocation or shadow of turning. (James [1844] 1992: 569-570)

Determinism is a kind of conditional necessity: if the antecedent determining conditions occur, then so do the consequent conditions. If some form of determinism is true, then it seems to follow that there are no alternate possibilities for us to choose from, and that the sources of our actions are external to us, to be found in fate, our social conditioning, or the laws of nature. (Kane 2005: 5) A simple formula for understanding determinism is: same past → same future; the future would be different only if the past had been different.

Free will seems to imply that it is “up to us” what we choose and how we act, meaning that we could have done otherwise. This also suggests that the ultimate sources of our actions lie in us and not outside us in factors beyond our control. If determinism is true, then these implications are false. Thus, *prima facie*, free will and determinism do not seem to go well together.

The Promise of Indeterminism

The contrary to determinism is *indeterminism*. Again, a number of definitions have been proposed, but it is James who felicitously elucidates the underlying intuition.

Indeterminism, on the contrary, says that the parts [of the universe] have a certain amount of loose play on one another, so that the laying down of one of them does not necessarily determine what the others shall be. It admits that possibilities may be in excess of actualities, and that things not yet revealed to our knowledge may really in themselves be ambiguous. Of two alternative futures which we conceive, both may now be really possible; and the one becomes impossible only at the very moment when the other excludes it by becoming real itself. Indeterminism thus denies the world to be one unbending unit of fact. It says there is a certain ultimate pluralism in it... (James [1844] 1992: 570)

If indeterminism is true, then PAP may also be true because there is more than one possible path into the future. And if PAP is true, then we retain moral responsibility. A simple formula captures the core of indeterminism: same past → different future; the future could be different even if the past had been the same.

Frankfurt-Type Examples

Harry G. Frankfurt is best known for presenting an influential argument against the association of PAP with moral responsibility. Frankfurt argued that free will and moral responsibility do not require alternative possibilities. The argument centered on certain kind of example. These kinds of examples have subsequently become known as Frankfurt-type

examples. They have a distinctive structure that involves preemptive overdetermination, viz. the existence of some fail-safe device that does not play a role in the causal sequence that issues the relevant behavior but nonetheless renders that behavior inevitable.

John Locke was the first to present an example of this kind. Suppose a person, while asleep, is locked in a room. He wakes up, and finds himself in the pleasant company of someone he wants to talk to. He decides to stay of his own free will, but he couldn't leave even if he wanted to. (Locke [1690] 1824: II.21.12, 226-227) It appears that he is responsible for staying despite the absence of alternative possibilities.

Frankfurt elaborates on Locke's example. Consider the following scenario: Black wants Jones to perform a certain action. Suppose Black has, unbeknownst to Jones, altered Jones's brain so that whenever Jones shows the slightest sign² of doing something other than what Black wants, he interferes remotely by triggering a process in Jones's brain that makes Jones do what Black wants. Otherwise Black doesn't intervene in order not to tip his hand. Now suppose that Jones voluntarily and independently does what Black wanted without any intervention from the latter. It seems that Jones acted according to his own free will, and is therefore morally responsible for doing what he did. On the other hand, Jones could not have done otherwise due to Black's implanted mechanism. Therefore, the principle that moral responsibility requires the freedom to do otherwise is false—moral responsibility is independent of PAP.

Frankfurt's example can be generalized if we imagine a global Frankfurt controller like Black who controls all of Jones's choices and actions throughout his life. Suppose Jones voluntarily does what Black wants throughout his life, and Black never has to intervene. It follows that responsibility never requires the power to do otherwise. (Kane 2005: 84)

Moral Responsibility in Games

The condition of possibility for a game is that all players adopt a *lusory attitude*, viz. they agree to, respect, and uphold the game's rules because these make play possible. (Suits 1978: 38-41) The lusory attitude is normative in the sense that cheating is generally considered immoral since it breaks the game. Equally immoral is constantly directing other players' attention to the conventional and arbitrary nature of the game's rules or pointing out that the play activities engaged in are meaningless and pointless beyond the game's boundaries; this, too, breaks the game. This much seems relatively unproblematic. But these norms are *play-external* in the sense that they concern the ways in which players are supposed to relate to the game. Arguing that there are also *play-internal* norms—moral and immoral playful or make-believe actions—is more difficult because there are two strong intuitions against this view.

Isolation of the Magic Circle

The first intuition is that play is in a sense isolated from the rest of the world. Games presuppose a special delimited space isolated from the normal everyday world and its rules—

² The idea of a prior sign was introduced to Frankfurt-type examples by David Blumenfeld. See Blumenfeld (1971).

a *magic circle*—and play proceeds within this space according to its internal rules and norms. These are different from the rules and norms that obtain in the world beyond the magic circle. Because the magic circle is closed to the rest of the world, the players are transported into an alternate space during play, it is not correct to assess what goes on inside the magic circle in light of the norms that hold outside it in ordinary circumstances. Play proceeds in the everyday world but it is in a sense separate from it.³

Morality Does not Apply to Fiction

The second intuition is more specifically related to computer games, though I suspect that it may be extended to traditional non-computerized games as well. Computer games are half-real: they consist of a real rules that determine real victory and defeat conditions, but they also project a fictional world on top of the rule system through their narrative and representational elements as well as the fictions that surround them. (Juul 2005: 163, 196) The rule-governed events of the game unfold in the fictional world that structures play,⁴ sets the local, glocal, and global goals of the game⁵ as well as justifies the prescribed ways of attaining them.

To the extent that play unfolds in a fictional world, it makes little sense to say that the events that occur in such a world, and the characters that populate it are subject to moral evaluation. A fictional world is an instance of make-believe, and imaginative participation in actions that in the real world would merit moral blame are not subject to censure in the realm of fiction because we only make-believe that we engage in them or enjoy fictional characters engaging in them. Moral evaluation pertains to actions performed, not actions imagined.

An Argument for Play-Internal Norms

I believe that there are play-internal norms. To argue for my case, I will first show that we morally assess fictional worlds. We bring the moral principles that hold in our everyday world into the fictional worlds we encounter, and we evaluate these worlds in light of our non-fictional normative principles. Second, I will argue that due to an important similarity between the ways in which we engage with fiction and play, it is, by analogy, justified to bring our non-ludic moral principles to bear on in-game actions like play-acted killing, torturing, and so on. It would follow that there are play-internal norms and these largely coincide with or are influenced by the normative principles that hold beyond the magic circle.

Writing of fiction, David Hume says that while we are not or shouldn't be bothered by representations of unusual ideas, but we do not and shouldn't tolerate morally reprehensible ones.

Where any innocent peculiarities of manners are represented ... they ought certainly be admitted; and a man who is shocked with them, gives an evident proof of false delicacy and refinement. ... But where ... vicious manners are described, without being marked with the proper characters of

³ This intuition is based on Johan Huizinga's views on play. See Huizinga ([1944] 1949).

⁴ For ways in which narrative elements structure play, see Pinchbeck (2007, 2008).

⁵ On the goal hierarchy of games see Järvinen (2007).

blame and disapprobation, this must be allowed to disfigure the poem, and to be a real deformity. I cannot, nor is it proper I should, enter into such sentiments; and however I may excuse the poet, on account of the manners of his age, I can never relish the composition. (Hume [1741] 1828: 278, 279)

Likewise, all manner of speculation can and should be admitted. But once one's moral compass is set, one is reluctant to alter it or even entertain sentiments and states of affairs, regardless of whether they are fictional or actual, that are immoral according to one's cherished normative standards.

The case is not the same with moral principles as with speculative opinions of any kind. These are in continual flux and revolution. ... Whatever speculative errors may be found in the polite writings of any age or country, they detract but little from the value of those compositions. There needs but a certain turn of thought or imagination to make us enter into all the opinions which then prevailed, and relish the sentiments or conclusions derived from them. But a very violent effort is requisite to change our judgment of manners, and excite sentiments of approbation or blame, love or hatred, different from those to which the mind, from long custom, has been familiarized. And where a man is confident of the rectitude of that moral standard by which he judges, he is justly jealous of it, and will not pervert the sentiments of his heart for a moment, in complaisance to any writer whatsoever. (Hume [1741] 1828: 279-280)

Moral defects in a work of fiction may make it impossible for us to enjoy it because we don't want to look beyond our moral scruples in order to enjoy the work. (Walton [1994] 2008: 29) We resist imagining things we find morally objectionable. For instance, I may resist imagining a racist world depicted in a novel on moral grounds even if the propositions used to convey that world are not themselves moral. (Ibid: 31) Thus it seems that when we're interpreting literary and other works of art we're less willing to allow that the work's fictional world deviate from the real world in moral respects than in non-moral respects. (Walton 1990: 154-155)

The reasons for our resistance, while interesting in and of themselves, are beside the point at this moment. All that matters for my argument is that we do apply our actual normative standards to fictional worlds and their inhabitants. The fact that we refuse to engage with works of fiction on moral grounds shows that our actual moral standards override our aesthetic sensibilities as well as the pleasure we derive from fictions. Sometimes we refuse ourselves such pleasures on moral grounds. Thus morality applies to fictions, whether in the form of games, novels or films.

There is an important similarity between how we engage with fictions and how we play. Fictions involve make-believe: we make-believe that certain propositions are true, that certain characters have particular personality traits, etc. Make-believe as a form of behavior is two-dimensional. The person involved in make-believe is simultaneously engaged in two contradictory behaviors: he participates at the same time in both a real and an unreal or imaginary situation. On the one hand he is experiencing all the emotions that an analogous real situation would elicit; on the other, he knows there is no need to engage in the behaviors that would be appropriate in the real situation.

Play also presupposes that players are able to engage in make-believe because they are expected to behave as if that which is actually false is true. (Evans 1982: 353) The message “this is play” really says “[t]hese actions in which we now engage do not denote what those actions *for which they stand* would denote.” (Bateson [1950] 2000: 180) When dogs are playing, the “playful nip denotes the bite, but it does not denote what would be denoted by the bite.” (Ibid) Just as images and texts are props in make-believe (Walton 1990: 4-5), play as an activity often rests on other meaningful activities that were previously unrelated to play. (Goffman [1974] 1986: 40) Thus fictions and play resemble each other because both crucially depend on the participants’ engaging in the two-dimensional behavior of make-believe.

If make-believe does not isolate the fictional worlds of art from evaluation, and occasional rejection, in light of overriding moral considerations, then the same should hold for play as it proceeds within the magic circle. If moral considerations override the pleasure we could derive from make-believe in the case of fictions, they should also override the pleasure we could derive from make-believe in the case of games and play. Just as fictional events in a novel do not proceed without the reader’s active interpretive involvement, events and game states in play are crucially player-dependent. Since the bringing about of each new state in the game is directly dependent on the player’s ability to execute certain actions that have correlates outside the magic circle, then the player’s in-game actions, make-believe or not, are subject to moral evaluations. Just as a reader can refuse to continue engaging with a novel on moral grounds, so a player can refuse to continue playing, that is, can refuse to continue engaging in certain in-game actions, on moral grounds. Therefore there are play-internal norms and these supervene on the moral norms we subscribe to outside the magic circle. Thus players can be responsible both for breaking the play-external norms associated with the lusory attitude as well as for going against play-internal norms. Since play-external norms apply only to the ways in which one plays while play-internal norms apply to the kinds of actions one playfully engages in, the domain of play-internal norms is broader than that of play-external norms. Finally, that there are play-internal norms is further supported by the existence of moral management⁶ in games in order to make the enjoyment of in-game violence more palatable. (Klimmt et al. 2008)

The *BioShock* Analogy

At the core of what I’ll be calling *the BioShock analogy* is the simple claim that the fictional worlds and narratives of both *BioShock* and *BioShock Infinite* refer to the structural features of their own underlying formal rule systems, that is, to the ways in which play is organized and structured in these games. By analogy, the commentaries that the stories of these games make about themselves can be generalized to other similar types of games, and perhaps beyond. The analogy has two parts. First, the fictional world of *BioShock Infinite* refers to the overall structure of modern action-adventure FPS-s. Second, *BioShock* says something about player agency and responsibility in these kinds of games.

***BioShock Infinite* and the Deterministic Structure of Modern Action-Adventure FPS-s**

⁶ The notion of moral management was proposed by Bandura (2002).

In *BioShock Infinite*, Zachary Hale Comstock—a self-professed prophet and religious zealot—has kept his “heir,” a young woman named Elizabeth, locked up in the floating city of Columbia. Elizabeth can open “doorways” into alternate worlds and times. Booker DeWitt, a washed-up ex-Pinkerton agent, is hired to rescue Elizabeth in exchange for having his gambling debts wiped clean.

The metaphysical nature of *BioShock Infinite*’s fictional world is revealed in the end when Booker and Elizabeth wander among an infinite number of lighthouses. Elizabeth explains:

They’re all doors. Doors to everywhere. They’re a million, million worlds. All different, all similar. Constant and variables. There’s always a lighthouse, there’s always a man, there’s always a city. I can see them through the doors. Sometimes something’s different, yet the same.

In the fictional world of *BioShock Infinite*, the many-worlds interpretation of quantum mechanics is treated as reality.

Quantum Mechanics, the Measurement Problem, and the Many-Worlds Interpretation

Quantum mechanics studies physical phenomena at microscopic and subatomic scales. In classical physics, matter was seen as constituted by particles. In quantum mechanics, matter is treated as having wavelike properties. (D’Espagnat 1999: 3) Each observable physical system can be described by a wave function. A wave function is given by solving the Schrödinger equation, and its logical role in the theory is analogous to that of Newton’s second law in Newtonian mechanics—both describe motion. Given suitable initial conditions, the Schrödinger equation determines the wave function of a quantum system for all future time. (Griffiths 1995: 1, 2; Maudlin 2005: 206)

The wave function is interpreted statistically. This means that it describes the state of a particle by giving the probability of finding it at a certain point at a certain time. This is the source of indeterminacy in quantum mechanics—quantum mechanics gives us only statistical information about the possible results of a measurement. (Griffiths 1995: 2-3) The main difficulty concerning quantum indeterminacy is *the measurement problem*. According to the orthodox Copenhagen interpretation, prior to observation a measured particle is not located anywhere. A system has a property if its state assigns maximal probability to that property; it doesn’t have the property in question, if the state assigns it no probability at all. When neither of these conditions holds, whether the system has the property being measured or not is *objectively indeterminate*, viz. it neither has nor lacks the property. But objective indeterminacy never manifests itself to observers. Whenever an observer checks the system for some property, he either will or won’t find it. Thus the initially indeterminate property becomes determinate when measured.

This is commonly explained by

(CP) *The Collapse Postulate*: the act of measurement or observation for a property compels the wave function to “collapse” to a completely determinate state, that is, to assign a definite value to the measured property. (Griffiths 1995: 3-4)

It follows that the wave function evolves in two different ways: (1) by nondeterministic, non-causal, and instantaneous changes that occur as the result of measurement; (2) by deterministic, causal changes that occur in a physical system in the absence of measurement. (see Neumann 1955: 351) (2) is described by the Schrödinger equation, (1) by the nondeterministic process of collapse that provides only probabilistic predictions. (Maudlin 2005: 207, 210) This implies that measurement is contingent on the existence of a (human) observer; (Jammer 1974: 507-508) as a system goes unobserved, no events occur because an event requires the collapse of the wave function. (Jammer 1974: 474) This sets the stage for paradoxes of the Schrödinger's cat variety, which stress the apparent discontinuity between microphysical processes as described by the Copenhagen interpretation, and the discreteness of observations.

One response to these problems is the "relative state interpretation," also known as the *many-worlds interpretation*, of quantum mechanics. It was proposed by Hugh Everett III in 1957. In order to explain the apparent continuity of microphysical processes and the discreteness of observations it was proposed that the wave function never collapses. Whenever a measurement or observation is made the universe literally "branches" or "splits" into two or more different, separate, and causally non-interacting parts or worlds, all equally real. Each of these worlds corresponds to a definite possible measurement. The world is split into an astonishing number of branches with each observation. (Jammer 1974: 507-508, 512-513; Earman 1986: 224) The universe is really a *multiverse*, a set of finite or infinite possible parallel universes or worlds; a large number of co-existing space-times, all of which have more or less definite histories. (Deutsch 1997: 50-51, 274-276)

Figuratively speaking, the multiverse in the many-worlds interpretation, and in BioShock Infinite, is somewhat like T'sui Pên's garden of forking paths.

In all fictional works, each time a man is confronted with several alternatives, he chooses one and eliminates the others; in the fiction of T'sui Pên, he chooses—simultaneously—all of them. He creates, in this way, diverse futures, diverse times which themselves also proliferate and fork. ... In the work of T'sui Pên, all possible outcomes occur; each one is the point of departure for other forkings. Sometimes the paths of this labyrinth converge ... [T'sui Pên] did not believe in a uniform, absolute time. He believed in an infinite series of times, in a growing, dizzying net of divergent, convergent, and parallel times. This network of times which approached one another, forked, broke off, or were unaware of one another for centuries, embrace all possibilities of time. We do not exist in the majority of these times; in some you exist, and not I; in others I, and not you; in others, both of us. (Borges [1941] 1964: 40-42)

Possible Worlds and the Structure of Modern Action-Adventure FPS-s

In metaphysics, David Lewis has a similar vision of reality. According to him

The world we live in is a very inclusive thing. Every stick and every stone you have ever seen is part of it. And so are you and I. ... There is nothing so far away from us as not to be part of our world. Anything at any distance at

all is to be included. Likewise the world is inclusive in time. ... The way things are, at its most inclusive, means the way this entire world is. ... There are countless other worlds, other very inclusive things. (Lewis 1986: 1, 2)

Lewis is talking about possible worlds, and for him these are the same kinds of spatiotemporal concrete physical things like our world. For my purposes, a more abstract and formal conception of possible worlds will do, one that nonetheless captures the idea that a world is a very inclusive thing.

DEF *Possible world*: a possible world is a total description or representation of conceivable situations or states of affairs of real-world systems, total ways the world might have been or total histories of the world. (Kripke 1980: 18; Hughes & Cresswell 1996: 21)

A set of possible worlds is the

DEF *Universe*: a universe is finite or infinite the set of all possible worlds relative to system being described. Possible worlds in the universe come with an accessibility relation that determines which worlds are accessible from which on the basis of the properties of each world.

A possible world can be actual. An actual world can be defined as

DEF *Actual world*: a possible world in the universe is actual if it obtains, viz. if it describes a condition or state that the real-world system is actually in at a given time.

BioShock and *BioShock Infinite* are action-adventure FPS-s. Early instances of such games had action hero protagonists navigate labyrinthine environments and dispatch swarms of enemies. Later entries in the genre replaced mazes with filmic and linear settings that fork into a small number of possible preset paths at predetermined points in the game. The player can choose which path to take through the game environment, but the choice is inconsequential because all paths ultimately converge on the same point where important narrative events occur. The plots of such games usually depict adventurous journeys toward a single goal through dangerous environments. The main challenge lies in executing the preset sequences of actions intended by the game's designers as perfectly as possible in order to overcome in-game obstacles. (Klevjer 2006) The structure of modern action-adventure FPS-s is characterized by *constants* and *variables*. The constants are the predetermined narrative choice points and the small number of forking paths connecting them; the variables are the different ways that players navigate these structures, but these differences have little effect on the game's overall outcome. In this, modern action-adventure FPS-s are similar to works of interactive fiction where the reader ultimately has a limited number of alternative ways to proceed through the story, and there are preset choice points at particular places within the story.

As a real world system, the computer game can be thought of as a set of components (the physical and logical resources of the game) the range possible properties, relations, and interactions of which are determined by the game's algorithmic rules. Games unfold in time, starting from an initial state, and ending with a final state. The complete description of the configuration of game components in each stage of play constitutes the game's state at that time. The set of all possible game states is delimited by the game's rules. (Cf. Björk &

Holopainen 2003) When looked at in this way, the actual world is a state of the game as a real world system at a particular time; a possible world is a possible game state as compatible with and possible relative to the game's rules; the game itself as the set of all possible game states in accordance with its rules is the universe of possible worlds.

The thing about the many-worlds interpretation is that it makes the physical universe deterministic. While each branch realizes but one of the many possible outcomes of an event, each particular world-line still conforms to the schema same past → same future. In terms of possible worlds as game states in the game as a universe of possible worlds: same preceding world → same subsequent world; prior actualized possible worlds determine what subsequent possible worlds are actualized. In other words, from each actual world only a single possible world is accessible. A game system would be indeterministic if prior actualized possible worlds did not determine which subsequent possible worlds are actualized. In other words, from each actual world, a number of different possible worlds are accessible. This, however, is not the case with modern action-adventure FPS-s.

BioShock as a Frankfurt-Type Example

The original *BioShock* can be seen as an interactive Frankfurt-type example. Recall that from the moment the game's protagonist, Jack, sets foot in Rapture, he is contacted by a man named Atlas—the game's main antagonist in disguise—who guides him through the city, and has him carry out various tasks. His instructions often involve the phrase “would you kindly.” This turns out to be a programmed trigger phrase to make Jack do what Atlas wants. However, in play this constraint is actually exercised through the game's structure; if the player wants to proceed, and he does if he is a model player,⁷ then he has no choice but to successfully complete Atlas' tasks. Once the trigger phrase is neutralized by the end of the game, Jack and the player still have no choice but to head down a predetermined path to attain one of the four possible endings.

The many-worlds setting of *BioShock Infinite*'s plot reflects the game's structure. For the player, the structures of both *BioShock* and *BioShock Infinite* act as preemptive overdetermining devices that let them act with no consequential possibilities to do otherwise. On the narrative level, Booker's world in *BioShock Infinite* acts as a preemptive overdetermining device for him. The Luteces have brought numerous Bookers from other worlds into the Comstock-world where the game unfolds. The game's constants show as much: Booker always picks number 77 during the raffle, his coin toss always comes out heads, and his rescue attempts are always prevented by Songbird. As Elizabeth suggests: “We swim in different oceans, but land on the same shore.”

The *BioShock* Analogy: Moral Responsibility in Modern Action-Adventure FPS-s

Both *BioShock* games can be interpreted as Frankfurt-style examples on the level of their narrative contents and their structure: the protagonists on the narrative level and the players on the ludic level are the agents without alternate possibilities, and the game's structure on the

⁷ A model player, like Umberto Eco's model reader, is someone who plays the game as it was intended to be played by the game's designers.

ludic level is akin to a global Frankfurt-controller. This means that the protagonists of these games, despite the strategies of moral management employed (e.g. that the heroes are fighting against evil, saving innocents etc.), are responsible for their blameworthy acts of killing and mayhem in the games narratives. By extension, the player, too, is responsible for the acts he or she commits in the game, despite the fact that there are no alternative in-game possible worlds available to them.

The structure of the universe of possible worlds in action-adventure FPS-s is such that they are akin to Frankfurt-type examples. If so, then player, like the protagonists of these games, has no freedom to do otherwise, and, as the discussion of moral responsibility in games showed, is nonetheless still responsible for the his or her in-game actions.

Extending the Analogy: Deterministic Structure and Player Responsibility

The *BioShock* games are not special in this regard; they simply make explicit the underlying structure of these kinds of games. By analogy, the conclusions drawn about player freedom and responsibility in the *BioShock* games can be extended to other kinds of games in the same genre. In fact, the analogy can be applied to all *games of progression*, viz. games that consist of a series of separate challenges that the player has to solve in a predetermined order. (Juul 2005: 5) To see this, let's consider examples of different games of progression belonging to different genres.

Call of Duty: Black Ops

Any entry in the *Call of Duty* franchise would do as an example, but let's consider *Call of Duty: Black Ops* (2010). In the single-player campaign, the player is tasked with leading the game's protagonist, Alex Mason, through a number of skirmishes and missions between the 1940s and 1960s in order to foil a communist conspiracy to lead the US and Soviet Union into a full-scale nuclear war. The game's missions are structured in such a way that given the same prior game state (possible world), only one subsequent game state (possible world) is actualized. Thus the player has no alternative possibilities, but is nonetheless responsible for the actions he make-believely engages in.

L.A. Noire

In *L.A. Noire* (2011), players guide Cole Phelps through his rise and subsequent fall from favor in the police force of 1940s L.A. In doing so they have to gather clues, interview witnesses, and interrogate suspects in order to elicit confessions out of them. The game brought two novelties to the tried and tested adventure game formula. First, due to innovative motion capture technology, players had to read the body-language of in-game characters in order to determine whether they were telling the truth or lying. Second, the game was relatively open ended. Unlike in traditional adventure games where the only way to proceed is to solve a puzzle exactly the way intended by the game's designers, players could deviate considerably from the ideal way of solving each case. While this would change the way each individual case played out, it did not affect the overall outcome of the game; the player could

fumble through each case, and still advance in their career. Despite the fact that there were multiple paths through the game, it was still the case that given a prior game state or possible world, only one possible subsequent possible world was accessible from it. Repeated plays show that if the player actualizes the exact world, the same subsequent world follows. For instance, given the same crime scene evidence, if one asks the exact same questions from a suspect on the second play-through, one gets the exact same answers and the same outcome as the last time.

Braid

Braid (2009) was a critically acclaimed puzzle platformer where the player's task was to rescue a princess by solving time-related puzzles in each level. As is characteristic of most puzzle games, there is usually either a single correct solution to a puzzle, or a limited number of correct solutions. *Braid* is no exception. Despite increasingly clever puzzles, once a correct solution is found, subsequent plays reveal that given a prior possible world or game state of a certain kind, a single subsequent world or game state is possible.

In each of the cases considered here, the player, once set on a path, has little to no alternative possibilities. If it makes sense to attribute moral responsibility to the player for his or her in-game actions, then the lack of alternate possibilities has no effect on such attributions. As the diversity of the examples attests, the conclusions drawn from the *BioShock* games are potentially applicable to a broad range of games in different genres. Thus these results are not limited to modern action-adventure FPS-s.

Limits of the BioShock Analogy: Games of Progression

However, the analogy I have been developing has its limitations. Games of emergence are games that consist of a limited set of simple rules the combinations of which yield a vast number of unexpected variations. Many examples of games of emergence—such as various card games, chess or go—date from the pre-computer era. (Juul 2005: 5, 71) These games do not count as Frankfurt-type examples since for each prior actualized possible world, there is more than one alternative subsequent possible world that may be actualized. In other words, each past game state can be followed by more than one future game state. To illustrate this, I will consider just one example.

Civilization V

In *Civilization V* (2010), as in previous titles in the series, the player leads a civilization from prehistoric times into the future in order to achieve a number of different victory conditions in competition with other civilizations. The Civilization games count as games of emergence because each given game state can have a number of alternative subsequent states. This is most clearly illustrated by considering one of the possible victory conditions. Suppose one wants to win by winning the space race. This requires the gathering of certain kinds of resources, research into certain kinds of technologies, and the final completion of a space shuttle whilst fending off the sabotage attempts of other civilizations. Take any stage of this

long process, and you'll find a number of possible alternative subsequent states. Suppose that one the second play-through one does exactly the same things that one did the last time when trying to win the space race. (For the sake of simplicity I'm ignoring the differences in the game's initial state.) Even then each state in the process can have multiple alternative subsequent states—a natural disaster may set back one's plans, pollution levels may slow down research, military campaigns by other civilizations may annihilate one's own—from each possible world a number of alternatives can be accessed.

This has no effect on the player's responsibility for his or her in-game actions, however, since Frankfurt-type cases show only that the ascription of moral responsibility is independent of the existence or non-existence of alternative possibilities. If it makes sense to ascribe moral responsibility to players for their in-game actions, and this does not depend on whether they do or don't have alternative possibilities, then one can ascribe moral responsibility to players for their in-game actions in both games of emergence, games of progression, and the curious in-between cases such as the *Grand Theft Auto* series where more or less progression-based missions are connected with emergence-based travelling segments. (Juul 2005: 71-72)

Conclusion

Play involves two kinds of norms: play-external norms concern the correct attitude one should take toward play; play-internal norms concern the moral praiseworthiness or blameworthiness of in-game actions with respect to accepted moral principles. Games of progression can be thought of as Frankfurt-type examples where the game's structure functions as a constraint that prevents players from having the freedom to do otherwise. But if Frankfurt's intuitions are true, and it makes sense to ascribe moral responsibility to players for in-game actions, then the presence or absence of alternative possibilities does not affect the praiseworthiness or blameworthiness of in-game actions. These intuitions were developed on the basis of the narratives and structures in *BioShock* and *BioShock Infinite*, and then generalized, by analogy, to other games. However, games of emergence do not function as Frankfurt-type cases because their structures do not function as global Frankfurt-controllers that prevent players from pursuing alternative possibilities.

Games

BioShock. 2K Games, PC, 2007.

BioShock Infinite. 2K Games, PC, 2013.

Braid. Number None, Inc., PC, 2009.

Call of Duty: Black Ops. Activision, PC, 2010.

Civilization V. 2K Games, PC, 2010.

L.A. Noire. Rockstar Games, PC, 2011.

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