Fictionalism and videogame aggression

Grant Tavinor
Lincoln University
Lincoln 7647
Christchurch, New Zealand
+64 3 423 0818
grant.tavinor@lincoln.ac.nz

ABSTRACT
Videogames undoubtedly contain a great deal of apparent violence and aggression. This depictive content has frequently led to both public moral condemnation and the scientific investigation of the possible effects games have on aggression and violence beyond the context of gaming. This paper is not concerned with either the moral or the empirical questions of the effects of game violence, rather it concerns a conceptual problem with the analysis of in-game aggression. The frequently unacknowledged status of almost all videogames as *fictions* has important implications for our understanding of the content of games and the attitude of players toward it, and has proved a very poor starting point for understanding the function of apparently aggressive and violent gameplay. This paper investigates how the fictional nature of videogames affects the analysis of game aggression and violence, both undermining various assumptions of scientific accounts of game violence, but also leading to promising avenues of investigating the role of fictional aggression in gameplay.

Keywords
philosophy, gameplay, fiction, ontology, violence, aggression, first person shooter

VIDEOGAME FICTIONALISM
Battlefield 1 (DICE, 2016) undoubtedly contains a large amount of apparent violence and aggression; it is also a fantastic videogame. The violence and player aggression evident in videogames has been the subject of scientific investigation, particularly into its potential to cause aggression and violence outside of the immediate context of gaming. What has been under-appreciated in many of these studies, however, is how the fictional nature of videogames has consequences for the analysis and study of in-game aggression and violence. Ignoring the fictional status of the representational content in videogames such as *Battlefield 1* has had unfortunate effects for some psychological studies of games and gameplay, resulting in the mismeasurement and misconceived theorisation of gaming aggression. More positively, a characterisation of gaming violence and aggression that properly acknowledges the fictional status of such content has the potential to open up

Proceedings of DiGRA 2017

new ways of understanding the nature and function of the apparent aggression and violence within videogame gameplay.

There is a growing literature on the nature of videogames as fictions, particularly by philosophers (Tavinor, 2009, 2017; Gaut, 2010; Meskin and Robson, 2010, 2016). I will refer to the position that most (though perhaps not all) videogames count as fictions, as *videogame fictionalism*. It should be noted that this position has not gone uncontested (Aarseth, 2007; Velleman, 2008). Nevertheless, the literature on videogame fictionalism is growing, and covers a wide range of issues.

The games studies theorist Jesper Juul argues that videogames are "half-real" (Juul, 2005) by involving real rules and imaginary worlds. While this is a metaphysically unfortunate phrase—videogames are *entirely real*, it is just that they also depict imaginary scenarios and activities—it does successfully signal that computer games involve both fictional representations and real rules, and that interacting with the latter—and successfully playing the game—involves acknowledgement of the former fictive content. Juul, however, gives prominence to the rules of a game, arguing that it is "possible […] to discuss rules without mentioning fiction. However, it is not possible to deal with fiction in games without discussing rules" (2005, 121). For Juul, while fiction is very common in videogames, it is not fundamental.

I have argued on a number of occasions that videogames are almost always "interactive fictions" and that their interactivity allows for modes of engagement usually impossible in other kinds of fictional works (Tavinor, 2009). The nature of interactivity has itself come in for a great deal of recent philosophical attention (Lopes, 2009; Gaut, 2010; Smuts, 2009). Unlike Juul, I argue that fictionality is an unavoidable consideration when interacting with or discussing videogame rules, as the function of fiction in gaming is to provide the representational interpretation or setting of a gameplay algorithm, allowing for its presentation to the player (Tavinor, 2009, 92-102). I also go further in arguing that a consequence of this is that many of the apparent participative activities and attitudes of gamers—activities such as shooting guns, killing aliens, but also attitudes like feeling threatened by gameworld characters, or fearing them—are also fictional (2009, 140-142). In a recent paper I examined the narrative motivations that players may have in enacting the narratives of videogames (2017). Here too players draw on their knowledge not only of the fictionality of the material, but also on their knowledge of the genre situation of such fictions.

Aaron Meskin and Jon Robson argue that whether or not all games are fictional depends on precisely how we conceive of the concept of fiction but it seems clear enough that most videogames—and certainly violent first-person shooters such as *Battlefield 1*—are works of fiction on most such accounts (Meskin and Robson, 2010). In a more recent paper Meskin and Robson argue that videogames are an instance of the broader category of "self-involving fictions" which are "about those who consume them" because they make reference to their appreciators, including reference to apparent events, actions and attitudes that are merely fictional of those appreciators (Robson and Meskin, 2016).

Videogames fictionalism has played a prominent role in philosophical accounts of the ethics of videogames.[1] Stephanie Patridge notes, in setting out a position she calls "amoralism," that the fictionality of the content of videogames "makes it difficult to see how morality can gain entry into such worlds" (2011: 386). For this reason I have noted that while "we should not be too quick to dismiss the moral intuitions there are about the

content of videogames as *merely* fictional" the fictionality of game counts is a key consideration in approaching these issues (2009, 152).

VIDEOGAMES AND AGGRESSION

Videogame fictionalism is also an indispensable consideration for the scientific study of videogames, particularly because of how it impacts the understanding of the attitudes and activities that players adopt when they play videogames. The easiest way to illustrate this is by attending to the conceptualization of the term "aggression" within some of the psychological research on games. Aggression is a key concept in the psychological of study of videogames because much of this study has been primarily interested in showing that the play of violent and aggressive games is associated with violent and aggressive behavior outside of the context of games (Anderson and Bushman, 2001; Anderson, Gentile, and Buckley, 2007; Anderson, C. A., Shibuya, et. al, 2010).

So for example, addressing what they see as a hole in the literature, Craig Anderson and his colleagues Douglas Gentile and Katherine Buckley designed an experiment to test the causal relationship between violent videogames and short-term aggression in children and college students (2007: 61-77). They took just over five hundred students and randomly assigned them to groups who would play violent and non-violent games. The study participants were then tested using a computer program that measured their level of behavioral aggression. The test program involved the participant competing with an opponent (unbeknownst to the players, the computer and not a real person) to react first to an auditory or visual cue. When the participant lost a round (which was determined by the program itself at a predetermined rate) they were subjected to a blast of noise the level of which they believed had been set by their opponent (but, in fact, by the computer program). The participants were themselves free to set the level of noise their opponent would receive. This computer program test of aggression is widely used and according to Anderson has a high degree of "external validity," meaning that people who are aggressive in the real world are measured as aggressive when they take this test in the laboratory (2007: 62). For the purposes of this experiment aggression "was operationally defined as the number of high intensity noise blasts… the participant chose to deliver to his or her opponent" (2007, 63).

During the procedure itself, the subjects were initially told that the experiment was designed to test the effects of playing games on reaction times, and were allowed to practice on the test program. The participants were then made to play either a violent or non-violent videogame. The non-violent game was *Oh No! Not more Lemmings!*, a puzzle game in which players help cute green-haired lemmings escape a nasty fate. The violent games were the cartoonish *Captain Bumper*, a side-scrolling action game and the third-person 3D game *OttoMatic*, and the more mature-themed *Future Cop* and *Street Fighter*, the former a third-person shooter, and the latter a 2D fighting game. None of the younger children were allowed to play the latter "T-rated" games for ethical reasons (2007: 62). After twenty minutes of playing the videogame the participants' aggression was measured using the computer test described above.

Anderson, Gentile and Buckley's prediction that playing the violent game would lead to more aggressive behavior in the test condition was verified: "As expected, the participants who played on of the violent games delivered more high intensity noise blasts than those who played the non-violent game" (2007, 70).

It is crucial of course, that the variables under concern here are given precise definitions and this is especially true of the central concept of aggression. What then, is the proper definition of aggression? After pointing out that many studies offer ambiguous or conflicting definitions of the term, Anderson, Gentile and Buckley (2007, 13) define their construct as:

> a) A behavior that is intended to harm another individual, (b) the behavior is expected by the perpetrator to have some chance of actually harming that individual, and (c) the perpetrator believes that the target individual is motivated to avoid the harm.

For these scientists aggression is fundamentally *interpersonal*; moreover, it involves a person's intentions and knowledge about the effects of the intended behavior. Aggression is thus different to *anger*, because it necessarily involves behavior directed to others, and it is also different merely *assertive* behavior, because it involves the intention to harm others.

These interpersonal and intentional conditions are of no small significance because it is clear that the term "aggression" is also widely used in to refer to cognitions, attitudes or behaviors or their cultural manifestations that are not interpersonal or are not intended to cause harm, and hence which do not fit under this precise definition. An aggressive car salesman is not necessarily one who intends to harm car buyers (though they may end up doing so); aggressive music such as heavy metal is not made with the intention to harm its listeners. The former is more precisely referred to as overly *assertive* behavior; the latter as *loud*, *boisterous* or *offensive* music. Care must be taken then that "aggression" is used only in its technical sense, because using the looser vernacular sense could lead to an equivocation that may undermine the substantive findings of the science of videogame aggression.

Unfortunately, this may have actually occurred. Indeed, on a number of occasions in the study described above, it is not clear that what is counted as aggression or as an aggressive behavior or object really meets the technical definition of aggression offered. Does the computer program (and its blast of noise) used in the experimental procedure discussed earlier really measure an intention to harm? The participants likely know they are administering an offensive noise, but do they also conceive of it as a potentially harmful one? Participants could also easily infer that they have been given tacit approval by the authority figures of the researchers, which may influence their assessment of whether they were really causing harm. These criticisms are familiar: for example, the child psychologists Lawrence Kutner and Cheryl Olsen, argue that the technique "has never been validated as a measure of aggression" (2008, 74).[2]

More importantly for the focus of this paper, however, is the reference to the videogames involved in the study as aggressive or violent games. Because of the fictionality of such games, this is a much more complicated claim than it might initially appear. As noted, in this study *Captain Bumper*, *OttoMatic*, *Future Cop* and *Street Fighter* were assumed to be violent games involving aggressive play. The content of all of these games is fictional, and hence the play of none of them can count as literally aggressive because it lacks the kind of interpersonal behavior held to be definitional of real aggression. First, the play behavior is not "intended to harm another individual," the behavior is not "expected by the perpetrator to have some chance of actually harming that individual," and the player does not believe "that the target individual is motivated to avoid the harm." This is

because first, the apparent gameplay behavior of the players (the punching, shooting, etc.) involved in these games are at most fictional actions of a gameworld proxy, the player-character (Tavinor, 2009: 70). *Players* do not punch or shoot anyone while playing these games; rather, it is fictional that their gameworld *characters* perform such actions. And second, the characters to which this fictional behavior is directed are also fictional, and so cannot be really harmed. At most, the characters of these games can be *fictionally harmed*. Literally—and that is what counts in science surely—there is no real intended or even possible harm in these games and their play, and so they cannot count as aggressive games under the definition used to operationalize this construct.

Similarly, the games cannot count as literally violent if held to the related definition of violence typically used in such studies. Anderson, Gentile, and Buckley note that for the purposes of their study "violence is defined as intentional harm to a videogames character who is motivated to avoid that harm" (2007, 66). Again, the characters in *Captain Bumper*, *OttoMatic*, *Future Cop* and *Street Fighter* are fictional things, and a player cannot really harm a fictional character. Moreover, these characters have no motivations at all given that they are fictional; at most they have *fictional motivations*. Such games also do not meet the technical definition of violence offered in the studies and so are not correctly referred to as violent games under those terms.

The games that Anderson, Gentile, and Buckley investigated are single player games, however these conclusions hold for multiplayer games such as *Battlefield 1* where there is genuine interpersonal behavior in the form of competitive gameplay. While my intention as a player of such games is to defeat other players by fictionally shooting their characters, this behavior is not intended to, nor can it, harm the other players.[3] Indeed, we will find in the final section of this paper that clarifying the fictional nature of the depictive content in games allows us to better understand how and why players *welcome* the opportunity for fictional interpersonal violence.

The terms "violent game" and "aggressive gameplay" are of course still sensible and useful terms despite these technical observations, and most of us have no trouble in identifying violent or aggressive games when we encounter them; and it may certainly be worthwhile studying whether the play of these games might lead to real violence. But what the terms must refer to is that such games contain *depictions of fictional violence or aggression*.[4] More care would have seen the scientists label their constructs as "fictional" or "pretended" aggression and violence.

This might seem like a minor or nit-picking terminological issue, and one that Anderson and his colleagues could easily acknowledge without harming their overall program of research. (Or perhaps, indeed, they actually consider the fictionality of games much too obvious to comment upon.) They could then potentially refine their definitions and terminology in a way that accounted for the fictionality of the substance of the aggression and violence in gameplay. I'm not sure that this acknowledgement could be so simply and non-problematically achieved, however. This is because, first, Anderson and his colleagues do not given much evidence that they acknowledge the fictional status of games, or of how the fictionality videogames might have consequences for their psychological concerns. Where they do refer to fiction, Anderson and his colleagues give evidence of a very poor understanding of what the fictionality of games might amount to, and formulate some extraordinarily unconvincing and weak characterizations of the cognitive and behavioral significance of the fictionality of games.[5] This is perhaps understandable given that the fictionality of videogames is itself a topic that games

research—both that coming out social psychology and games studies—is not always well-versed in, or agreed upon. Secondly, altering the conceptualization of game aggression and violence to account for the fictionality of games may have theoretical or methodological effects that require more than a mere shift in terminology. The fictionality of videogames may pose more substantive problems for their theorization.

THEORIZING GAME AGRESSION

That this conceptual looseness has important theoretical implications for accounts of apparent game aggression is certainly worth investigating. If this science was solely concerned with statistically demonstrating a connection between violent and aggressive behavior external to games, and a theoretically minimal notion of videogame aggression, then perhaps this conceptual laxness would not be such a problem. That is, if the concept of game aggression and violence in this research was operationalised simple by reference to "apparent aggression or violence on a screen" (and hence not making the claim that this amounted to real aggression or violence, rather than depictions of fictional violence) then the statistical connection of these *depictions* with actual aggression might be meaningfully studied. But unfortunately, the theory that this science ultimately develops may trade on this conceptual fuzziness in a more substantive way, and in a way which proves problematic for the substance of the theoretical claims. This possibility can be seen by inspecting the theoretical model developed by Anderson and his colleagues to account for the link between game aggression and aggression and violence outside of the context of gaming.

Anderson and Brad Bushman have developed a theory intended to add a developmental aspect to what they see as evidence of a link between violent videogames and aggression; they call this the "General Aggression Model" or "GAM" (Anderson and Bushman, 2001). The theory involves a social learning hypothesis that has its conceptual roots in the work of social psychologist Albert Bandura (1973). Understood in terms of GAM, videogames model aggressive behaviors, and it is this modeling that explains the experimental and correlational findings, and that explains why the relationship should be genuinely worrying in real-world social terms. For Anderson and Bushman (2001, 355):

> The enactment of aggression is largely based on the learning, activation, and application of aggression-related knowledge structures stored in memory (e.g., scripts, schemas) […] Violent media increase aggression by teaching observers how to aggress, by priming aggressive cognitions (including previously learned aggressive scripts and aggressive perceptual schemata), by increasing arousal, or by creating an aggressive affective state.

According to this model, the "long-term effects of exposure to violent media result primarily from the development, rehearsal, and eventual automatization of aggressive knowledge structures such as perceptual schemata" (2001: 356). Hence, the measured short-term effects of videogames contribute to long-term learning, by constituting repeated "learning trials" (2001, 355).

This theoretical model invokes the involvement of aggression in the playing of videogames on a number of occasions: it refers to the "aggressive cognitions," "aggressive scripts and aggressive perceptual schemata," "aggressive affective state" and "aggressive knowledge structures." But at the very least Anderson and his colleagues need to take more care with their terminology here: they need to acknowledge more clearly that aggressive scripts and schemas they refer to are something quite different to

manifested aggression or violence; they are, rather *dispositional* scripts that might play a role in the production of aggressive or violent behavior in the right kind of context, but which can also be run "off-line" in non-interpersonal and non-violent contexts such as the participation with fictions. The play of games does not manifest aggression and violence, but rather in the context of gameplay manifests scripts that themselves might function in real violent and aggressive behaviors.

It is however is an open question of whether the cognitive scripts actually involved in gameplay—even fictionally violent and aggressive gameplay—are of this aggressive kind. And there is at least some reason to suspect that they are not. These reasons are prompted by the fundamental tenet of videogame fictionalism: that the role of fiction in these games is to embody ludic features such as rules and objectives. *Battlefield 1* surely depicts a great deal of fictional violence, but it would be an enormous mistake to try to explain the player's psychological involvement in this game solely in terms of this fictional content, because this would miss the principal behavioral context in which this representational content is employed. Foremost, interacting with *Battlefield 1* amounts to *playing a game*, and this behavioral context gives a very different impression of the kind of cognitive scripts that are likely be involved in apparently violent or aggressive gameplay. In the single player mode, "shooting" an NPC does not involve the intention to harm the NPC—as the fiction of the game might imply—rather, the fictional action is designed to surmount an obstacle in the game world. This is also the case in the multiplayer mode where shooting a player does not manifest an intention to harm the opposing player, but to *best them* in a competitive game. In both cases, the scripts or schemas pertain to the very real ludic demands that the player faces rather than the interpersonal situations depicted in the game's fiction.

Conflating the real and fictional activities apparent in gaming is unfortunately tempting because both share an *oppositional* structure. In genuine violence and aggression this oppositional structure comprises the interpersonal dynamic in which violent behavior is typically deployed; in videogames, the oppositional structure likely derives from the "unnecessary obstacles" that compose a principal formal structure in games and count as one of their key motivations (Suits, 1978). I will suggest in the final section of this paper that this oppositional similarity is why games are so frequently embodied in violent or aggressive fictions. But note that the oppositional aspect of games is common even in non-violent games—that is, games without an overlying fiction of violent interpersonal behavior—which often pit player versus environment, or player against player.

This may also imply that violent and non-violent games typically involve *genuine aggressive play* only in a non-technical or informal sense of being extremely *assertive* play. An aggressive player under this conceptualization is one who takes on an assertive and risky playstyle in an oppositional game. Again, however, this kind of aggressive play may exist even in games such as checkers without violent or aggressive representational content. Such oppositional play can even lead to anger when the competition becomes heated and this gives a very different picture of the feelings that are very evident in such games, such as the frustration or apparent "rage" that follows from being repeatedly "killed" by another player. The feeling here may not be provoked by or directed toward the violent action—that one has been fictionally killed by an opposing soldier—but by the fact that one has genuinely been bested by an opponent in the context of this fiction.[6] Most gamers will know these feelings well.

The principal problem in Anderson and Bushman's theoretical account of in-game aggression (and it is a problem that extends throughout the work of Anderson and his colleagues) is that they take the *surface fiction* of gameplay at face value, as depicting the real activities and attitudes of players. We can see this repeatedly in the theoretical substance of their position. For example, in illustrating their associationist "knowledge-structures" approach, Anderson, Gentile and Buckley (2007, 43) characterize the putative learning process through an "associative network" that links together aggressive concepts and a "retaliation script":

> One knowledge structure is an aggression concept representing a schema that includes "gun" as a central concept. The retaliation script represents another type of knowledge structure (i.e., a "script") that includes decisions rules and actions to take when intentionally provoked.

Because there are no guns or no gun usage really involved in the playing of *Battlefield 1* (rather, there are fictional representations of guns and their use) to be applicable to videogame play this illustrative model needs to draw its terms directly from the surface fiction of the games being investigated. But then if this model was to be *consistently applied* to the knowledge structures pertinent to the surface fictional level of such games, one would expect to see additional game specific conceptual nodes such as "trench warfare," "bayonet," "tank," "resuscitation" and so on. But these kinds of terms are precisely what we do not see in the Anderson and Bushman model, or their wider discussion of what gamers learn from playing games. In fact, in such studies it is routinely the case that any terms that would make it clear that the cognitions, scripts, perceptual schemata, affective states and knowledge structures in gaming are directed towards the fictional worlds of games are conveniently avoided.

This omission disguises the fact that what is being referred to in these theoretical accounts of putative videogame aggression are behavioral or cognitive scripts that pertain to an imaginative involvement in the fictional worlds, rather than behavioral or cognitive scripts that pertain to the genuine gaming activities in which these fictions play a central role. Hence, as well as selectively drawing on the surface fictions of violent games to provide the substance of their psychological model, the theoretical model here seems entirely oblivious to the fact that these fictions compose the depictive content, rules and objectives of very real games. Any realistic associative networks and scripts associated with games and gaming (rather than an unrealistic account which draws on the surface fiction of the game) will be very different to Anderson and Bushman's model because they will contain game specific concepts such as "losing," "winning," "team member," "opponent" and so on. This understanding has the potential to substantially reconfigure the apparent "retaliatory," "aggressive" or "violent" social interaction that Anderson and his colleagues see, into one that is more appropriately described as *competitive* and even *collaborative* (Nguyen, 2017).

The claim here is not that gamers cannot learn from games (or indeed, that they cannot learn something about aggression from games when these are understood in a realistic way[7]) but rather, to use the scientific jargon, that the "knowledge structures" that are learned from gaming are likely to be mostly those specific to playing games. Unfortunately, the scientific methodology and assumptions that led to the development of GAM are simply not designed investigate this possibility. The theoretical findings of this program of research are built into a definitional failure central to its methodology. In its application to videogames, GAM is only coherent because it ignores videogame

fictionalism; but it does so at the expense of its ultimate credibility as an account of games and aggression.

FICTIONAL AGGRESSION AND GAMEPLAY

This is doubly unfortunate because the role of fictional aggression within games is itself a fascinating question. Videogame fictionalism is crucial in taking a critical stance to how games and gameplay aggression and violence have been understood, but it is also crucial to the *successful* analysis and understanding of apparent game aggression. To see this, the theoretical approach needs a little more explanation.

Elsewhere I have developed a tripartite account of videogames involving their *algorithmic substrate*; its *representational embodiment*; and the *situational context* in which this artifact is employed for the purposes of play (2009). For Juul, fundamentally, games can be described *algorithmic* terms as a set of legal transitions between an opening state and a target state that defines the end or objective of the game (Juul, 2005, 61-63). A game such as tic-tac-toe has a very simple game algorithm. This simplicity also extends to its representational embodiment in that the depictive tokens that are used to play the game are nothing more than distinctive figures used to represent the game state to the players to enable their performance of the game rules.[8] The representational figures can be scrawled on paper, drawn in sand on the beach, or embodied via pixels on a computer screen, but their representational significance beyond their function of representing the game state is negligible. The final part of this simple picture is the observation that the *situational* context of the game playing contains additional factors that are not captured by its formal game algorithm or its depictive nature (Tavinor, 2009, 102-109). These situational features constitute how this formal depictive artifact is used for the purposes of play. Like other games, tic-tac-toe can be the occasion of competition—though because of the simple and predictable nature of the game algorithm, only of a limited sort, which explains the most frequent use of the game by children. The game is also the occasion of cooperative fun between players, the feature which is surely the principal reason for the existence of such games. Games are at their most basic a means of passing the time in an entertaining way. Bernard Suits' definition of game playing is ideally framed to account for this social or situational aspect of gaming by framing it in terms of a "lusory attitude" (Suits, 1978).

Battlefield 1 has all of these features, and their consideration in this context is crucial to understanding the nature of game aggression in such a fictionally robust game. Here too we have a game algorithm, though this time also in a computational sense in that the game is literally instantiated in part by a computer algorithm. The algorithm of *Battlefield 1* is significantly more complex than that of tic-tac-toe because it is not restricted to describing the alternating placement of two tokens in a grid of nine squares. *Battlefield 1* depicts a fictional world in which the various rules and objectives are embodied. The game still has an algorithm that defines valid state transitions and what counts as a performance of the game—though these are now partly automated, in being performed by the computer—but this algorithm is more unavoidably representational and figurative than that seen in tic-tac-toe. As such the rules and objectives in this game are characterized by fictional military combat, involving activities such as running and gunning, driving tanks and other military vehicles, healing and resuscitating other players, spotting and sniping the opposition, and so on.

This representational and figurative robustness also has an important effect on the situational and social factors attending *Battlefield 1* and similar games. While the game

has a single player campaign mode, like the rest of the *Battlefield* series, *Battlefield 1* is most familiar from its multiplayer mode in which one cooperates and competes with other real people in online play. But again, this cooperation and competition is largely subsumed within the figurative level of the game in necessarily being characterized in fictional terms.[9] Moreover, the fact that is of direct relevance here, this figurative level of this cooperative and competitive play is typified by a great deal of fictional violence: playing with other people in *Battlefield 1* typically involves trying to fictionally kill their characters.

Thus, the apparent violence of the representational content of a game like *Battlefield 1*, and its algorithmic structuring into the rules and objectives of a game, is the occasion for players to engage in an enjoyable (though frequently frustrating) social activity. Because the fictional theme of the gameplay in such videogames is that of violence, their playing gives the immediate but erroneous appearance of being a literally aggressive or violent activity, perhaps explaining the widespread confusion in the scientific literature discussed in the first part of this paper. The important point here, however, is that the apparent violence in game has as its principal role the *fictionally violent embodiment of literally non-violent gameplay* activities such as cooperation, competition and fun.

Such fictional or pretended interpersonal violence, it turns out, has long been a good way to embody oppositional gameplay and the ludic activities it supports. *Play-fighting* is an entirely obvious way to embody competitive gameplay because defines easily understood roles and objectives. This much should be obvious from the prevalence of traditional games or play activities that draw their themes from interpersonal aggression where the objective is to "get" the other player, or games that are easily understood as such. In addition to the many organized sports that involve such oppositional features, the childhood games of tag, bull-rush, dodgeball, capture the flag, thumbwar, manhunt, cops and robbers, are all easily understood as games that involve *played* interpersonal aggression as a part of their gameplay. Indeed, in some of the games the resemblance to interpersonal violence is so apparent that they too have been the subject of frequent moral worries (Pinker, 2011: 379). Nevertheless, each of these games involves capturing, hitting or eliminating opponents to remove them from the play space, or to condition their role in the play space, or the capturing and domination of a territory. First-person shooters seem to be a robust fictional outgrowth of these kinds of oppositional play activities, differing principally in their computational and figurative complexity.[10]

ENDNOTES

[1] Though again, some games theorists have underplayed the significance of the fictionality of videogames for the issues. For example, Miguel Sicart claims that "It is not the game world of the fiction that makes a game ethical or unethical. Or more precisely, it is not only or even primarily, the fiction of the game that determines the ethics of the videogames" (Sicart, 2009, 143).

[2] Craig Ferguson goes further and concludes that "despite years of use, the measure of has never been shown to be predictive of real-world aggression, let alone violent crime" (2010, 40).

[3] It may be possible to genuinely harm a player in the context of multiplayer videogames, however: while videogames are fictional works, they obviously involve real interactions with other real people. *If* offending someone during in-game chat counts as harming them—which is admittedly questionable—then one may certainly harm another player. But this kind of griefing or offensive play is not the focus in the studies discussed here,

because what counts in these studies is clearly the violent representational content of the games. Moreover, such offensive play may even occur in games lacking violent or aggressive depictive content.

[4] Games can also depict real violence. A case of this is where the cut scenes of a game contain documentary material of real violence.

[5] For example, Anderson, Gentile and Buckley note that "adults all 'know' that advertisements are fake; yet they still work […] Therefore, an advanced ability to distinguish between fantasy and reality does not seem to be a particularly good moderator of media effects" (2007, 52). This argument conflates fictions with the "fakeness" of advertisements in a way that not only interrupts the inference in the argument, but also gives the impression that the authors have a poor understanding of the concept of fiction.

[6] The reasoning here has a corollary in Kendall Walton's arguments that film appreciators do not really fear the slime slithering toward them "through" the movie screen, but rather fictionally fear the slime (Walton, 1978). These arguments are not uncontroversial, of course, but they are defensible.

[7] At the very least, to be applied to gaming cognition, this learning model will have to engage the deeply complicated issue of what or how people learn from fictions. But this issue, or the wide literature that has developed around it, is usually entirely ignored in the science of games and aggression.

[8] Thus, tic-tac-toe is not obviously fictional in that its depictive figuration does not represent an imagined state of affairs; we can now see why games (including at least some videogames) need not count as fictional: game algorithms are not necessarily embodied in fictions, but may be embodied non-fictive representational tokens, the movements of people on a marked playing field, and so on.

[9] This necessity likely extends to the identity of games (Tavinor, 2011). To play *Battlefield 1*, one simply must engage with the work at a figurative, moreover fictional level. *Battlefield 1* is thus not prone to substantive representational reconfiguring (in the way that chess is) without a change in game identity. In this case, if you change the figurative layer, say from soldiers to space aliens, this change would result in a different game. *Battlefield 1* is *essentially* a game about military combat in World War I.

[10] I'd like to thank an anonymous reviewer for their very helpful comments on an earlier version of this paper.

BIBLIOGRAPHY

Aarseth, E. 2007. "Doors and perception: fiction vs. simulation in games." In B. Perron (Ed.) *Intermediality: History and Theory of the Arts, Literature and Technologies, Playing, No 9, Spring 2007*, 35-44.

Anderson, C. A., and Bushman, B. J. 2001. "Effects of violent video games of aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature." *Psychological Science*, 12: 353-359.

Anderson, C. A., Gentile, D. A., and Buckley, K.E. 2007. *Violent Video Game Effects on Children and Adolescents: Theory, Research, and Public Policy*. Oxford: Oxford University Press.

Anderson, C. A., Shibuya, A., Ihori, N., Swing, E. L., Bushman, B. J., Sakamoto, A., Saleem, M. 2010. "Violent videogame effects on aggression, empathy, and prosocial behavior in Eastern and Western countries." *Psychological Bulletin*, 136.

Bandura, A. 1973. *Aggression: A Social Learning Theory Analysis*. Englewood Cliffs. N.J.: Prentice-Hall.

Ferguson, C. J. 2010. "Media Violence Effects and Violent Crime: Good Science or Moral Panic?" in *Violent Crime: Clinical and Social Implications*, C. J. Ferguson, ed. SAGE Publications.

Gaut, B. 2010. *A Philosophy of Cinematic Art*. Cambridge: Cambridge University Press, 2010.

Juul, J. 2005. *Half-real: Video Games between Real rules and Fictional Worlds*. Cambridge MA: The MIT Press.

Kutner L. and Olsen, C. 2008. *Grand Theft Childhood: The Surprising Truth About Videogames and What Parents Can Do*. Simon and Schuster.

Lopes, D. M. 2009. *A Philosophy of Computer Art*. Oxford: Routledge.

Meskin. A. and Robson, J. 2012. "Fiction and the Fictional Worlds of Videogames," in *The Philosophy of Computer Games*, Edited by John Richard Sageng, Tarjei Mandt Larsen, and Hallvard Fossheim, 210-217. Dordrecht Springer.

Nguyen, C. T. Forthcoming. "Competition as Cooperation," *Journal of the Philosophy of Sport*.

Patridge, S. 2011. "The incorrigible social meaning of video game imagery," *Ethics and Information Technology* 13 (4):303-312.

Pinker, S. 2011. *The Better Angels of Our Nature: the Decline of Violence in History and its Causes*. Allen Lane: London, England.

Robson, J. and Meskin. A. 2016. "Video Games as Self-Involving Fictions." *The Journal of Aesthetics and Art Criticism* 74: 165-177.

Sicart, M. 2009. *The Ethics of Computer Games*. Cambridge MA: The MIT Press.

Smuts, Aaron. 2009. "What is Interactivity?" *The Journal of Aesthetic Education* 43: 53-73.

Suits, B. 1978. *The Grasshopper: Games, Life and Utopia* (Toronto: Broadview Press).

Tavinor, G. 2009. *The Art of Videogames*. Malden, MA: Wiley-Blackwell, 2009.

Tavinor, G. 2011. "Videogames as Mass Art," *Contemporary Aesthetics*, Volume 9.

Tavinor, G. 2017. "What's My Motivation: Interpretative Performance in Video Games," *The Journal of Aesthetics and Art Criticism*, Winter 75 (1):23-33.

Velleman, D. 2008. "Bodies, Selves," *American Imago* 65: 405-426.

Walton, K. 1978. "Fearing Fictions," *Journal of Philosophy* 75 no.1: 5-27.