

[Note: This article appeared on *First Person Scholar* during my tenure as editor-in-chief. That post can be found here: <http://www.firstpersonscholar.com/procedural-realism/>]

Procedural Realism: The Political Representation of Reality in Videogames

In this post I develop the concept of procedural realism in videogames. By procedural realism I mean those game processes that strive to represent real-world systems in a manner deemed accurate or realistic. What I want to explore here is the politics of procedural realism, something I pursue by examining what game developers choose to represent ‘realistically’ and what they choose to represent ‘unrealistically’ or, in certain cases, not at all. These decisions are political in the sense that they have implications for various subjects.

For example, choosing to pursue the realism of an accurately rendered weapon while choosing not to realistically portray the pain and suffering caused by firing that weapon, perpetuates the fetishization of violence while diminishing the harm that violence inflicts on others.

In game studies the notion of procedural representation having political implications is likely a generally accepted observation, to the point that it borders on being trite. However, outside of these circles the politics of procedural realism are often overlooked. For instance, journalists and enthusiast gamers alike might comment on how realistic the water looks in a game or how inaccurate it is for a Glock pistol to hold thirty-bullets, but these discussions risk overlooking the broader representations these games create. What I’d like to do here is provide what I hope is a clear explanation of why scholars, critics, developers, journalists, and players alike need to address this issue.

Methodology

First off, I’d like to address several assumptions I’m bringing to this post. First, I accept that games make arguments through their processes and procedures. Second, that the absence of choice in a game is itself an argument. Third, that developers should be held accountable for the arguments their games make, intentionally or not.

This last point is perhaps an obvious one given that critics, journalists, and scholars hold authors and filmmakers accountable for what their works represent. Historical inaccuracies and systemic misrepresentations of cultures and subcultures, genders and races, are fair game in literary and film criticism.

In games, however, there is little accountability of this nature, in part due to the industry’s relationship with the publications that cover them, which often prevents journalists from adopting a critical perspective. But the lack of accountability also stems from appeals to player agency—that, for instance, the player chooses to fire the gun or kill the animal or even to play the game in the first place. The developers, so the argument goes, can hardly be held accountable for the actions players choose to pursue.

It's in response to this argument that I think procedural realism makes a needed contribution to the conversation.

Procedural Realism

Procedural realism begins by acknowledging that realism, or fidelity with the real world, is a goal that some games strive for but which all games nevertheless inevitably fall short of.

Indeed, games are not alone in this when it comes to realism. When we talk about realistic representations in artworks we often implicitly include the audience's capacity to add in or complete the representation. In psychology this is known as closure (or Gestalt closure). In literature it is referred to as the suspension of disbelief; in film it appears in our capacity to extend events beyond the screen.

As Janet Murray points out, this process is crucial to experiences that are perceived as immersive and realistic. As she writes, "Because of our desire to experience immersion, we focus our attention on the enveloping world and we use our intelligence to reinforce rather than to question the reality of the experience" ([*Hamlet on the Holodeck* 110](#)).

Artistic representation, then, relies on audience participation in order to create and maintain a sense of realism. In fact, this can allow for a more realistic experience as it enables the audience to fill in details in a subjective manner, such as when generic words are read as very specific objects. Describing a character as rotund or a song as moving calls upon our own personal interpretations of these concepts; that subjectivity, in turn, lends persuasion to the representation, making it potentially more immersive and realistic.

In games, however, closure becomes significantly more complex. For instance, when reading about a car crash in a novel, closure works to ensure that such an event unfolds in a way that conforms to the reader's understanding of real car crashes. In a game that strives for realism, however, designers need to be much more explicit. And so realism in racing games is often associated with the procedural accuracy of the driving—i.e. the physics, such as the weight of the car and how it handles, as well as the damage that occurs to said car if it collides with a wall or another car.

Such events can be immensely complex and so designers find shortcuts. Some racing games omit damage altogether, others forgo the notion of realism itself and embrace more of an 'arcade' approach. And all racing games restrict where vehicles can go in order to control the behaviour of the representation, lest it fall into an unmanageable situation where immersion breaks.

The Politics of Procedural Realism

It is in mitigating complexity that the politics of procedural realism emerges. For example, procedural realism asks us to consider what the game designers chose to represent with accuracy, as this will always come at the expense of another aspect of the game. In this way procedural

realism incorporates the development and design processes themselves by acknowledging the technological, economic, and temporal constraints that commercial games are produced within.

Mainstream gaming provides us with numerous examples of these trade-offs. In the past, designers have accepted simple facial animations, limited player mobility, impractical physics, and limited player-world interaction, in exchange for those aspects of the game deemed more demanding of thorough and realistic representation. Just how these decisions function politically can be seen in the two case studies below.

However, before jumping in, I want to acknowledge that realism is also a concept used rhetorically by the industry to sell games. Ultimately, the following games are primarily concerned with entertaining players first and attaining fidelity with the real world a distant second. I get that.

But I also reject it as a means of absolving developers from taking responsibility for what their games represent. Each of the following games seek to represent some aspect of real armed combat while choosing to ignore other, equally real aspects of the world. And so, through the politics of realism, I want to question this notion that picking and choosing which aspects of the world to represent realistically and which to represent unrealistically for the purposes of making killing fun is, ultimately, harmless.

Advanced Warfare, Grief, and Loss

The first game I look at in terms of procedural realism is *Call of Duty: Advanced Warfare*. In this military-themed shooter, players perform various combat procedures, such as finding cover, throwing a grenade, and piloting a drone. Conversely, the game forgoes representing emotional and psychological processes that accompany armed conflict, such as post-traumatic stress disorder and the sense of grief at the loss of human life. In *Advanced Warfare*, the former, despite being germane to the story, is absent, while the latter is reduced to an optional prompt at a funeral.



Here I'd like to suggest that, traditionally, the actions that are represented procedurally have served as the criteria by which the realism of a game is evaluated. For instance, combat games encourage players, reviewers, and critics to focus on the realistic behaviour of the weapons (i.e. magazine sizes, damage, range, etc.) and artificial intelligence (i.e. do they take cover, use tactics such as flanking, investigate a noise, etc.), which often comes at the expense of querying the realism outside of combat, such as the impact of armed conflict on non-combatants, or the long-term implications of being injured in combat.

Indeed, in *Advanced Warfare*'s prologue the main character, Jack Mitchell, loses not only his best friend but his left arm as well in a single explosion. Further on in the game, in the scene where Mitchell is prompted to pay his respects, he is confronted by an individual offering him a chance to return to combat through a proprietary prosthetic arm. The implication here is that the only injury Mitchell suffered was physical and even then that such an injury is easily remedied.

The fact is, to accurately represent the events Mitchell goes through the designers would need to address the health complications that accompany trauma in the battlefield. For example, one would think that the psychological trauma of losing one's arm, coupled with losing one's close friend in the same moment, would present just as much a challenge to returning to combat for Mitchell as the practical complications caused by operating weapons and vehicles with a single arm. In these non-combat registers, the game fails to maintain coherence with reality.

That said, I'm not suggesting that *Advanced Warfare* should or even necessarily could have accommodated all of these objectives at once while maintaining its identity as a first-person

shooter. In fact, procedural realism suggests that we treat realism like a ratio—when striving for procedural realism with some aspects of a game, others are necessarily truncated or omitted.¹

The question then becomes: what do these various ratios represent? In the case of *Advanced Warfare*, the procedural emphasis on combat coming at the expense of emotional and psychological realism creates a representation of reality that is strategic and utilitarian. In this way the game engenders a stronger consideration for tactics and objectives, than it does for, say, human life.

Chris Plante captures this nicely in [his review of *Advanced Warfare*](#). He opens with a description of a scene from the game in which the player engages in a firefight with enemies across a heavily-trafficked street. Plante writes that, “I didn't internalize what it had asked of me at the highway until a few hours after I'd reached the credits. In that moment, my efforts to thwart global terrorism involved flippantly shooting civilians, whose vehicles functioned as just another interesting form of cover. And I didn't hesitate.”

When talking about holding developers accountable for the procedural arguments that their games make, this is what I have in mind. Through the processes it does, and does not, represent, *Advanced Warfare* argues that players should take into consideration only those tactical elements of the world that stand between the player and the overall objective. Ironically, this ends-justify-the-means mentality is the very same espoused by the villainous forces against which you are tasked with defeating, such that, procedurally, there is little differentiating the two. And that warrants serious consideration.

Far Cry, Flames, and Fur

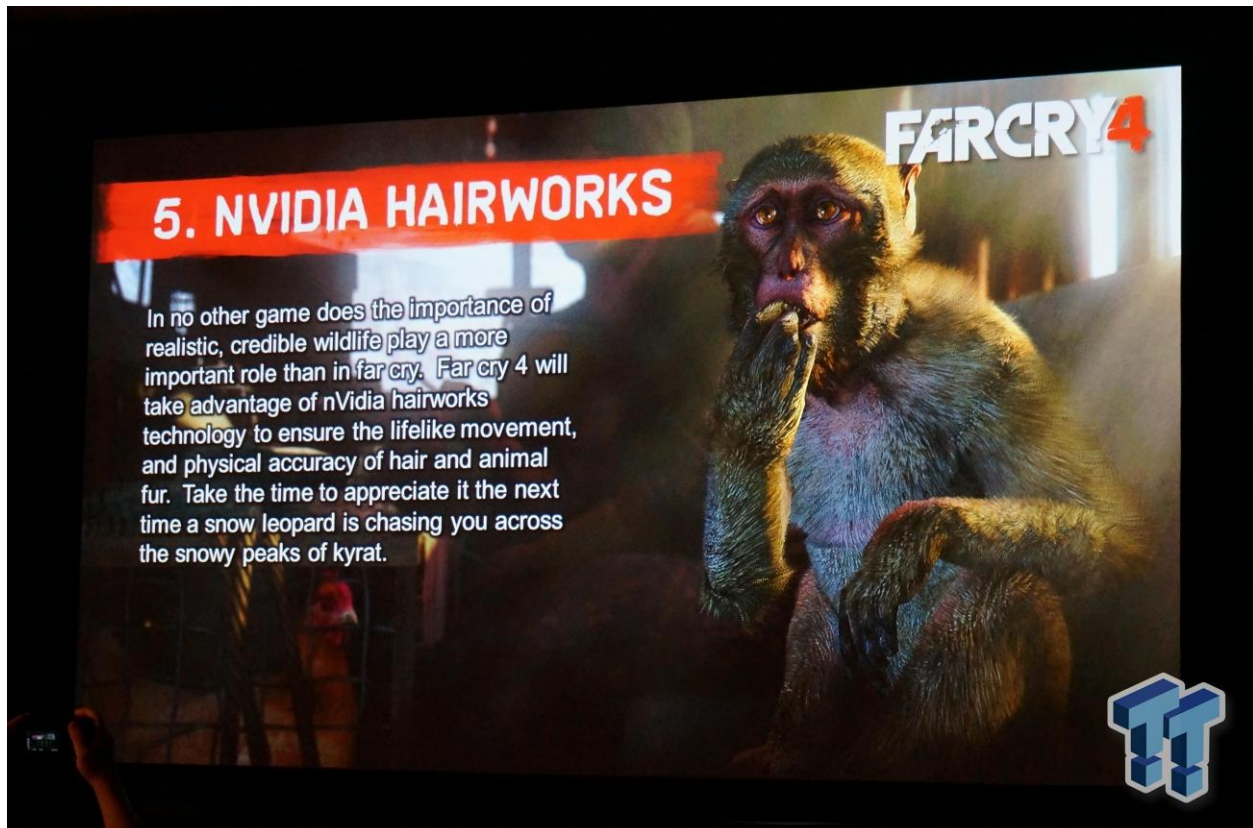
In the lead up to the release of *Far Cry 2* a lot was being said about how realistic the game was going to be. One of the cornerstones of that authentic experience was the game's representation of fire. Through a proprietary fire propagation system, previews heralded the player's ability to set desert grasses ablaze and watch the flames spread across the land realistically.²

In contrast to the sophistication of the fire propagation system, the developers decided to keep the standard first-person shooter premise of treating bullets like [airsoft pellets](#) that NPCs shrug off until they're hit one too many times and collapse. The end result is a game more attuned to the realistic representation of what happens when a Molotov cocktail is thrown in the middle of a Central African desert than to the arguably more straight-forward interaction of a high-velocity metallic projectile coming into contact with the human body. This, from a procedural realism perspective, speaks volumes regarding the ambitions and priorities of the developers.

¹ Indeed, these ratios are already somewhat reflected in the various genres of contemporary videogames. First-person shooters often privilege combat realism, whereas strategy games depict political realities, and role-playing games frequently explore social realism.

² If you think I may be overstating this, [here is an entire Gamasutra interview discussing how fire spreads in the game](#).

Jumping ahead six years, *Far Cry 4* was released earlier this month. The game has received high praise for its realistic visuals. In addition to looming mountains and lush forests, the game also features some of the most realistic animal fur ever on display.³ Meanwhile, in what I would suggest is not an unrelated matter, the team announced back in June that they had to scrap plans for [adding playable female characters after they deemed it too costly for the game's development](#).



It is perhaps worth asking why it is so crucial that the animals are represented in a “realistic, credible” way. This is because the game has you hunting and skinning wildlife to build a bigger wallet, and other apparel that allow you to store more items. In fact, what began in *Far Cry 3* as a supposed send-up of other games that have players hunting and killing endangered animals is now simply a part of the series’ core gameplay.⁴

³ The game implements Nvidia’s Hairworks technology, which promises “physical accuracy of hair and animal fur.” You can read more [here](#).

⁴ As the lead writer of *Far Cry 3* noted [in an interview](#), “...by the way, you’re hunting endangered species on these island [sic] – that’s also intentional – it’s supposed to be an exaggeration of things you do in other games.” To which *Rock, Paper, Shotgun’s* John Walker—and I’m paraphrasing here—says, ‘bullshit.’ Indeed, Walker calls him out for the disconnect between what is labelled satire and the in-game processes and procedures which fail to prompt any sort of critical reflection that satire often elicits.

And yet, having pursued procedurally “realistic” and “credible” representations of wildlife, the designers took these “lifelike” animals and subsumed them into unrealistic processes of shooting without maiming (the game continues the airsoft approach to ballistics) and skinning without skinning (the player retrieves the animal’s skin without representing the animal as skinned after the fact). This disjunction is worth interrogating beyond the dismissive retort that the player ultimately chooses whether to perform these actions or not. The fact is, the crafting system in the game persuades the player to devalue animal welfare by choosing which aspects of the process to represent realistically and which to represent unrealistically for the purposes of entertainment.

Then there is the larger narrative frame of *Far Cry 4*, which begins by introducing us to the protagonist, Ajay Ghale, a tourist to the fictional country of Kyrat, who is there to spread the ashes of his mother. Seconds into the game’s opening, however, the bus on which Ghale is travelling is attacked, fellow travelers are murdered, and this already-sombre endeavour is pulled into the horror of an armed conflict between an oppressive ruler and an oppressed but armed religious faction.

Contrast that opening frame with the following description of the game by its executive producer: “It’s not unlike taking a year off a digital life. Not everyone has the money to get on a plane [plane] and go and live somewhere for a year” ([Dan Hay , Far Cry 4 executive producer](#)).

Hay’s remarks, which depict *Far Cry 4* more like a fun vacation than a harrowing descent into an armed conflict, are descriptive of the processes and procedures that make up the gameplay of *Far Cry 4*, which are treated as distinct from its supposedly real-world setting.

In this way the game organizes its serious subject matter through processes that utterly trivialize that subject matter. And in doing so the game invites some unsavoury comparisons. For instance, the premise of *Far Cry 4*—travel to a foreign country, develop and hone combat skills, perpetrate acts of violence on behalf of an armed religiously-motivated group—is not altogether different from the kind of terror tourism promoted by the likes of ISIL. In fact, ISIL has developed the media savvy approach of trivializing acts of violence through [intentionally hailing the procedural arguments made by Western military-themed first-person shooters](#).⁵

⁵ And the U.S. military is hardly exempt from this rhetoric, with games like America’s Army.



راية التوحيد
رسول الله

**THIS IS OUR CALL OF DUTY
AND WE RESPAWN IN JANNAH**

Even ISIL's most infamous and horrific acts of violence, the filmed beheadings of foreign citizens, have an analog in the Far Cry series through the throat-stabbing mechanic. In fact, the game encourages this approach given its usefulness in maintaining stealth.



[Caption: Animated gif of a player in *Far Cry 3* stabbing a mercenary. [Kotaku provided a round-up of the numerous throat stabbings at E3 back in 2012](#), in which this image appears.]

That these first-person shooter games can be so easily appropriated to serve the rhetorical needs of an organization like ISIL should give us cause to stop and think about what these games represent beyond the choices of an individual player.

To be clear, I am not suggesting that these games are somehow training players to join terrorist organizations. Rather, I'm asking us to consider the politics involved in a game that cares more about realistically rendering a [honey badger](#) than the consequences of shooting and stabbing other human beings. I'm asking us to interrogate those systems that make using civilians as shields an afterthought, as was Plante's experience (and my own) with *Advanced Warfare*. And I'm asking us to hold the designers of those systems accountable for what their systems ultimately represent. This simply isn't happening enough.

Conclusion

In terms of holding developers accountable for what their games represent, the concept of procedural realism, and its always-political nature, provides a means of critiquing those decisions to pursue one form of realism over another. As a concept it is intended to reflect the impossibility of a procedurally realistic game, thus shifting the burden back on to the design decisions of the developers. And given that these decisions precede the player's interaction with the supposedly realistic game world, they are not made apolitical by giving players agency within those spaces; rather, we find ourselves playing in the politics of others.

Afterword:

I feel I should make a disclaimer here: I don't mean to suggest that games should necessarily aspire to achieve realism, as [this can be counter-intuitive and restrictive](#). In fact, realism is a topic fraught with philosophical, technological, and artistic complications, none of which I address here in a satisfactory manner. That said, I do think that the processes we go through in discussing what is and what isn't a realistic representation are invaluable in terms of understanding each other and our experiences of the world.

Further Reading:

[Guns Vs. Real Life by William Coberly](#)

[Video: Sexism and sexuality in games by David Gaider](#)