

Helpless Spectators: GENERATING SUSPENSE in VIDEOGAMES and FILM

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Abstract

Films and videogames both generate emotions in the viewer/player, but due to their inherent differences, often do so in ways specific to each medium. This article looks at the emotion of suspense as a test case to evaluate that generalization. We contend that, although each medium does have unique features that can be used to generate suspense, these media share surprising similarities. We argue that videogames can be most effective in generating suspense not by highlighting their unique ability to be interactive, but, to the contrary, by limiting interactivity at key points, thereby turning players into helpless spectators. Our analysis highlights a previously overlooked factor in film's ability to generate suspense: helplessness.

When talking about videogames, in addition to discussing a game's story, graphics, and gameplay, we often mention the emotional responses such games generate. We might describe a game as being funny, scary, or frustrating. Since the relationship between a game player and a game is fundamentally different from that between a film viewer and a film, we might expect that films and videogames would excel at generating different types of emotions. Yet, in some cases, they clearly generate similar emotions in viewers and players. An Amazon editorial review for the videogame *Evil Dead: Hail to the King* (THQ, 2000) states that the game "contains all of the humor, suspense, action, and gore that made the movies such classics." This evocative claim raises several questions. Can a videogame generate the same emotional responses as a film? If so, do videogames use mechanisms similar to film to achieve these ends?

Although several authors have discussed scenarios in which videogames generate emotions, little attention has been paid to a detailed understanding of the emotions in question. For example, two articles in *Screenplay* address suspense in passing without any analysis of the component features of suspense or what makes suspense possible (King 55, Tong & Tan 105). A specific understanding of the emotion in question seems necessary to develop a satisfying account of how videogames gen-

erate emotions, particularly in contrast to film.

In "Hands on Horror," Tanya Krzywinska explores the differences between the ways horror movies and horror video games create tension and suspense. She argues that:

...the cut-scene wrests control away from the player and reinforces the sense that a metaphysical 'authorial' force is at work, shaping the logic of the game. This evocation of helplessness in the face of an inexorable predetermined force is crucial to maintaining horror-based suspense, in that the game world often operates outside the player's control. (211)

Rather than exploring the relationship between helplessness and components of suspense, Krzywinska makes an analogy between helplessness and "occulted fate" to explain how horror videogames generate suspense (or at least horror-based suspense, a concept that she never clearly distinguishes from standard suspense). Since the devices she describes—embedded cut scenes, limited camera control, and dangerous landscapes—are not unique to horror video games, her claim is questionable. In all films, for example, the viewer never has control of the narrative, yet we would not say that this gives all films a sense of "occulted fate" or that all films generate suspense. We agree with Krzywinska that helplessness is essential to understanding suspense in videogames, but not because helplessness is analogous to fate. Rather, helplessness heightens suspense because it foregrounds its key elements: fear, hope, and uncertainty.

In this article, rather than comparing films and videogames through issues of adaptation (e.g., how the film *Matrix Reloaded* (Wachowski, 2002) differs from *Enter the Matrix* (Shiny Entertainment, 2002)), or comparing formal features of films and videogames in a broad medium-specificity study, we focus on how the two media generate one specific emotion, suspense, in the viewer/player. Our hope is that a more specific approach will yield general insights into how films and videogames affect those that engage with them. First, we look at the concept of suspense and advocate a theory of suspense structures in fiction.' Next, we argue that some attributes inherent to videogames prevent them from producing suspense in ways available to other forms of fiction, such as film. Finally, we explore how videogames can overcome these apparent limitations and use their capabilities to generate suspense in ways unique to the medium.

I. What is Suspense?

To usefully analyze how suspense can be generated, we must first clarify the term. We endorse the view, put forth by psychologists Ortony, Clore, and Collins, that suspense is composed of fear, hope, and the "cognitive state of uncertainty" (131). In this context, fear can be described as feeling displeasure about the prospect of an undesirable event; hope can be defined as feeling pleasure about the prospect of a desirable event. People feel suspense when they fear a bad outcome, hope for a good outcome, and are uncertain about which outcome will come to pass. In real life, we might feel suspense when walking through an unfamiliar, reputedly dangerous neighborhood at night. We fear that we might be mugged, hope that we will be safe, and are uncertain which will occur.

Ortony, Clore, and Collins also state that, as "prospect emotions," fear and hope depend on the desirability and likelihood of a prospective outcome. I would be more fearful of being attacked with a knife than with a fist, because the potential outcome is worse with the knife, and thus is more undesirable. Similarly, if two equally bad outcomes have different likelihoods of occurring, I will probably fear the more likely bad outcome more than the less likely outcome.' It may be equally bad to be attacked by a lion and a shark, but if I am swimming in the ocean, I am more fearful of a shark attack than a lion attack. Hope works in a similar way as fear: hope increases as an outcome seems more desirable and likely.

Likelihood has a strong but non-direct relationship with uncertainty, a key component of suspense. Uncertainty is maximized when the likelihood of contrasting outcomes is relatively even; it is minimized when one outcome is much more likely than the other. If you are flipping a coin, for example, the possible outcomes (heads or tails) are equally likely, and the outcome is very uncertain. In contrast, say you are trying to roll ten sixes in ten rolls of a die. Failure is far more likely than success, and thus the outcome is only slightly uncertain. Since uncertainty depends on a balance between prospective outcomes, increasing the likelihood of a specific outcome can either increase or decrease uncertainty. Making an outcome more likely increases uncertainty if the outcome was initially unlikely, but decreases uncertainty if the outcome was already quite likely. For instance, in a game of chess played between a skilled adult and a novice child, we would expect the skilled adult to win. If you gave the adult an advantage (such as more time on her clock), you would increase the likelihood of her victory, making the victory almost certain.

Giving her an additional advantage would in this case decrease the uncertainty of the outcome. However, if the skilled adult played a professional grandmaster, giving her more time would increase the likelihood of her success, but it would also increase the uncertainty of the outcome, as it would make it less certain that the grandmaster would win.

The intensity of a suspense response seems to rely crucially on two features of the event outcome: its uncertainty and the significance of what is at stake. Although we don't claim a direct relationship between uncertainty, stakes, and suspense, this characterization suggests that the greatest suspense is felt in cases where the outcome is very uncertain and the stakes are very high. You can also have suspense with low stakes if there is great uncertainty, or with low uncertainty if there are high stakes. However, if there is no uncertainty, then there can be no suspense. Similarly, if nothing is at stake, there can be no desirable or undesirable outcome, hence no fear or hope, and consequently no suspense.

II. Suspense in Film

Uncertainty, fear, and hope are the major conditions necessary for suspense, but how does fiction film create this reaction in the audience? Any art-form seeking to create suspense must engage spectators emotionally, getting them to care about the characters so that they feel something is at stake in the outcome of the story. Noel Carroll argues that most suspense films try to get the audience invested in story outcomes by arousing moral emotions through characterization. In most Hollywood films, we want the morally good hero to triumph over the evil villain. Ed Tan suggests that the amount of suspense that can be generated is in proportion to how sympathetic we are to a character (102). This observation accords with our claims about suspense: as our sympathy for a character increases, any outcome affecting that character becomes more important for us. The stakes increase, and so does suspense.

In his article "Towards a Theory of Film Suspense," Carroll argues that narrative fictions commonly employ a suspense structure that presents two opposing outcomes which vary in their probability and desirability. The typical suspense pattern employs an unlikely, desirable outcome and a likely, undesirable outcome. Specifically, he states that: "in the main, suspense in film is (a) an affective concomitant of an answering scene or event which (b) has two logically opposed outcomes such that (c) one is morally correct but unlikely and the other is evil and likely" (101).

Consider the end of *The Karate Kid* (Avildsen, 1984) where the protagonist Daniel (Ralph Macchio) faces a bullying opponent, Johnny (William Zabka), in the final match of a regional karate tournament. We are sympathetic to Daniel, whose karate teachings are based on moral principles, and unsympathetic to Johnny, who comes from a brutal and cruel karate dojo called the Cobra Kai. When Johnny follows his coach's instruction to illegally sweep Daniel's injured knee, the moral outcome becomes clear—the karate kid must triumph and uphold justice through his victory. Since Johnny badly injures Daniel's knee, this outcome seems unlikely, and as the final round is fought, we feel great suspense.

Carroll states that narratives typically make the undesirable event more likely than the desirable event, although he never claims that it is necessary for suspense. Yet, suspense can be generated even if the undesirable outcome is not more likely. Although there is only a one-sixth chance of death in Russian roulette, the impact of the negative outcome is serious enough to generate significant suspense. This same principle applies to film. Imagine a film called *My Man Godfrey II*, in which Godfrey is busy running a casino on the East River. One of his old archenemies from the junk yard has made it big and, thinking himself to be a fantastic and lucky gambler, sets out to bankrupt Godfrey by playing roulette at Godfrey's casino. Never one to back down, Godfrey pushes aside the table attendant and spins the wheel himself. The villain puts such a large bet on number seven that Godfrey will lose everything if the ball lands in that slot. With only a one in thirty-seven chance of losing, Godfrey is very likely to come out an even richer hero. Godfrey is a good honest fellow, and we would be very upset to see him go bankrupt. Making things worse, the villain is a scoundrel who we would hate to see win. With onlookers holding their breath, the music builds and we see a slow-motion portrayal of the ball circling the wheel before it drops. Though the undesirable outcome is very unlikely, it is easy to see that this scene could be reasonably suspenseful. Higher uncertainty might make the scene more suspenseful, but if enough is at stake, you can have suspense even with a likely desirable outcome.

Another characteristic of film viewing that contributes to suspense is the inability of the spectator to affect the narrative, which can create a sense of helplessness. It is clear that this inability cannot create suspense *per se*, since we are helpless to affect any film, but we only feel suspense in some films. We do not argue that helplessness is necessary for suspense, but we do think that it amplifies suspense in two main ways: it emphasizes uncertainty, and it allows time for reflection on alternative

outcomes.

Frequently, a film viewer has knowledge that could (in some hypothetical sense) make a desirable outcome more likely, if only they were able to interact with the characters. However, the viewer is helpless to put this information to use due to the non-interactive nature of film. In his interviews with Truffaut, Hitchcock discusses how he would sometimes inform the viewer of a crucial bit of information that could potentially save a character from disaster. Unable to relay the information or change the situation, the viewer is put into a self-consciously helpless state where tension and suspense thrive.⁴ We can see this technique in the film *Die Hard* (McTiernan, 1988), in which an off-duty cop, John McClane (Bruce Willis), faces a band of terrorists that have taken over a skyscraper. At one point in the film, the hero comes across the head terrorist, Hans Gruber (Alan Rickman), but, having never seen him before, is fooled into thinking that he is actually an escaped hostage. Frustrating the audience, McClane gives the terrorist a gun for protection. The viewer's knowledge of the situation creates suspense for several reasons. First, we know that there is now a potential undesirable outcome to the conversation: the terrorist kills the hero. If, like McClane, we did not know the apparent hostage was really a terrorist, we would presumably not feel suspense, since their conversation would not seem to have a plausible undesirable outcome. Second, we know that this outcome is much more likely because the terrorist is armed. Here, we might feel helpless, because if we could tell the hero that he is being fooled, then presumably we would be able to make the desirable outcome certain.' Our inability to interact with the fiction increases suspense because we cannot reduce uncertainty by changing the likelihood of the outcome.

One challenge to the notion that uncertainty is necessary to suspense is known as the "paradox of suspense.". If we have already seen a film, and we remember it well, we are certain how it will end. Although we may not feel suspense as intensely as we did upon first viewing, it is undeniable that we can feel some suspense upon repeated viewings, even with certainty about the outcome. The paradox of suspense can be formally stated as follows:

1. Suspense requires uncertainty.
2. Knowledge of a story's outcome precludes uncertainty.
3. We feel suspense in response to some fictions when we have knowledge of the outcome.

Although none of these claims seem objectionable in isolation, together, they are incompatible. Carroll, in his article "The Paradox of Suspense," offers a persuasive account of how we might dissolve this paradox. He argues that even if we know that a film will end in a certain way, we can still imagine, while watching it, that it will not end that way. Merely imagining that an event's outcome is uncertain is enough, he argues, to create suspense.

Videogames do not suffer from a paradox of suspense because the player can almost never know the outcome of the game with certainty. For most games, even if a player is very good, there is the possibility of a mistake in play that would cause the game to end badly. Thus, the second premise of the paradox, knowledge of narrative (or game) outcome, is never present when playing a videogame. The paradox of suspense is, however, related to the issue of replayability. Just as we might wonder how a suspense film can generate suspense on repeated viewings, we might ask how a videogame can maintain suspense and thus interest as the player's skill increases. If the player is highly skilled, the certainty of success rises, and uncertainty decreases. In the next section, we will discuss specific strategies games can use to maintain suspense upon repeated play and the basic techniques games employ in order to create suspense.

III. Suspense in Videogames

So far, we have developed a notion of suspense as having three essential features — fear, hope, and uncertainty — and have highlighted the relative importance of uncertainty and what is at stake in creating suspense. We looked at a typical pattern of suspense construction in narrative film, and discussed how the helplessness of the viewer plays a crucial role. Then we argued that due to the fundamentally different relationship players have to a game versus that of spectators to a film, there is no paradox of suspense in videogames, only a problem of maintaining suspense. Now we turn to an examination of how videogames create and maintain suspense by examining the ways in which they produce fear, hope, and uncertainty. Some of the techniques we explore are unique to videogames; others are drawn from narrative film or fiction. At their most suspenseful moments, videogames put the spectator in a wait-and-see position, reducing them momentarily into helpless spectators.' But, we may ask, why is this technique so effective? We think the answer lies in the usefulness of helplessness in creating suspense.

We have already noted an advantage to creating suspense in videogames: uncertainty, a necessary component of suspense, is inherent to most videogames. Yet, when people describe the responses that they usually have when playing videogames, suspense is usually not at the top of the list. Excitement, concentration, joy, frustration, and tension are the types of responses that most people report. Two related factors may contribute to the scarcity of suspense in videogames. First, when we feel suspense in response to art, we generally feel it in relation to narrative fictions rather than non-narrative art. Suspense is associated with narrative because it implies the consideration of possible outcomes to a story event. We feel suspense when we are wondering how a story will turn out, not when looking at an abstract film or a painting. Primitive interactivity does not change the picture: we do not feel suspense when playing a musical instrument.

Many videogames do not have a strong narrative component, and thus weaken their ability to create suspense. It is true that all videogames can be described in at least minimal narrative terms. A game of *Pong* could be called, play-by-play, in a manner similar to a tennis match, but the primary experience of playing *Pong*, *Pac-Man* (Namco, 1980), and *Joust* (Williams, 1982) is not one of suspense, in part because during the game you are not engaged in reflective consideration of the game states. The games are relatively simple and the player's attention is on controlling her character rather than reflecting on possible outcomes.

Reflection, then, is another essential part of suspense, because suspense turns on the ability to consider possible future outcomes from a given point. Although people can do this very quickly, other mental activities can hinder our ability to consider prospective consequences. When we watch a film, we are mentally active in constructing the story from the given filmic elements, but passive in comparison to the videogame player who is evaluating elements on-screen and rapidly responding to them. Many videogame players report experiences of being so intently focused while playing that they are oblivious to all but the most demanding distractions. It may be that in situations like this we simply do not have the multitasking ability to consider future outcomes in the manner required for suspense. Film viewers can easily reflect on alternative outcomes since they are helpless to affect the narrative. In videogames, players generally attend to specific interactive activities that are part of gameplay rather than to alternative outcomes. In this way, film is more conducive to generating suspense.

However, players do feel suspense in videogames, as is shown by the experience of tentatively looking around a dark corner for monsters in *Doom* (id Software, 1993) or waiting to see if a ghost will emerge from a haunted shrine in *Fatal Frame* (Temco, 2003). How, then, do videogames create fear, hope, and uncertainty? In the following sections we explore the features of video games that are used to provide the necessary conditions for suspense.

IV. Fear and Hope in Videogames

As previously noted, key components of a suspenseful situation are desirable and undesirable outcomes. The more desirable an outcome, the more hope we experience at the concomitant possibility of a happy result (or fear at an unhappy result). Videogames use a variety of techniques to encourage the player to desire a particular outcome. The desired outcome of most early videogames is simply to play as long as possible. Many modern games have defined end points, and the desired outcome is to finish the game. Of course, games also have points, bosses, levels, Easter eggs, and hidden moves, all of which may motivate skilled game play.

A basic feature distinguishing playing in an abstract sense (which might include playing cops and robbers or playing with action figures) from playing games is that games must have built in indicators of success. There is a growing ludological literature that questions whether games must have rules of play, rules of defeat, and rules of triumph,' but it is uncontroversial that games must have some progress indicators, whether this merely be staying in play or winning. If, as Crawford suggests in *The Art of Computer Game Design*, the nature of playing games is to succeed in the face of conflict, then a proper game comes with stakes—uncertain outcomes, desirable and undesirable.

Typically, the ultimate indication of failure in a videogame is the termination of a play session. Most games set up the end of play as a basic undesirable outcome. This unhappy situation can have various degrees of severity, depending on what is at stake in the cessation of play. In arcade games and most early console games lacking the ability to save a player's position, a limited number of play sessions (usually referred to as "lives") are offered to the player. When you have used up your lives, the game is over.

The most common way that a player dies in a videogame is interaction with an enemy: ghosts in *Pac-Man*, demons in *Doom*, and hunters

in *Halo*. In early arcade games, mere contact was often enough to kill your character, whereas *Halo's* hunters need to fight through your shield before you die. Since these enemies can lead to the end of a play session, players quickly learn to fear them, and games which use techniques such as enemies that pop out of shadows can create a visceral startle response in the player. The advent of force-feedback controllers, which add a tactile dimension to the game, make enemy attacks even more frightening.

To increase suspense, some games supplement this limitation on number of lives with the traditional narrative device of the ticking clock. If you do not complete an objective in a limited time frame, your play session ends. For example, in *Ghosts 'N Goblins* (Taito, 1985) you have a limited amount of time to complete each level, and if the timer runs out, you die. Timers reduce the player's control over the situation and force a resolution. In addition, they ensure that the player is aware that an outcome is imminent, encouraging them to work quickly to bring about a desirable result. Without an inevitable outcome, the stakes of play can seem too remote to motivate a strong response.

In arcade games, more play sessions can generally be purchased, and here the undesirable outcome has a financial component. When the player runs out of lives, it costs money to continue play, whereas continued play would have been free if the player had been more skilled. With console games, the consequences of poor play do not include money, but the practical resource of the player's time. During the arcade craze of the 1980s, expert players showed their skill with marathon games. In 1981 a teenager played *Defender* (Williams, 1980) non-stop for sixteen hours (Kent, 152). Many modern games have the ability to save a game and continue it later, which makes it possible to require longer play time than could be endured in one continuous stretch. These games can take as long as forty hours to complete. Modern on-line games, like *The Sims* and *Everquest*, have no set ending point and can potentially take as much time as a player wishes to invest. Since games can require such vast quantities of time towards the goal of game progress, the prospect of a premature, forced end to a game is highly undesirable. Once you have invested twenty hours towards winning a game and are finally going to confront the last enemy, you have almost a full waking day at stake, priming the situation for suspense.

In addition to the overall time put into playing a game, smaller chunks of time are often at stake in games that offer checkpoints—markers at which you can save and later resume your position. Some games,

like *Max Payne* (Remedy Entertainment, 2001) allow the player to save at any time; other games like *Halo* (Blizzard, 2001) allow the player to save games only at various checkpoints. Numerous reviews of *Tom Clancy's Splinter Cell* (Ubisoft, 2002) complained that the checkpoints were too far apart, suggesting that it was quite hard to make it from one checkpoint to another without dying.

In *Splinter Cell*, you play a black-ops agent brought out of retirement for a top-secret mission. As the other two games discussed, *Splinter Cell* has an elaborate narrative that is tightly integrated with the game play. It is a third-person shooter, but requires stealth-like movements. On several of the missions, if someone sees you and sounds an alarm, your game ends. Much of the game is thus spent waiting and hiding in suspense. In a game like *Splinter Cell*, a great deal of effort is at stake if you die because it takes so much effort to make it from one checkpoint to another. It is not surprising, then, that *Splinter Cell* creates an unusual amount of suspense during gameplay.

We have just offered several undesirable outcomes that a player might want to avoid: paying for additional play sessions, terminating the game session, losing time invested in achieving a game goal. Fearing these outcomes can contribute to suspense. What is at stake in playing a game, however, is not just avoiding unhappy ends to the game: there are also desirable ends. Most early games and many modern ones give you points for achieving certain game goals, and the points act as one type of built-in progress indicators essential to game play. Points are desirable both as a means towards continued gameplay in the form of extra lives and as indicators of a player's skill (we assume that a person who plays a game as a regular hobby hopes to be skilled at the game). The high score list, a ubiquitous feature of arcade games, shows that earning points is also valuable for bragging rights. The importance of score for this social purpose is suggested by the real estate given on the game screen for the high scores when the game is in idle mode (i.e., when the game is not actively being played). In addition, it requires programming and once-precious memory to allow a player to enter identifying initials or names into the high score list.

Although early videogames rewarded a player only with higher scores and more gameplay time, later videogames frequently had "interludes" and "endings"—points at which completion of the game's current goal would be succeeded not by more play, but by a film-like sequence representing the completion of the goal. 1980s arcade games often rewarded

the player who completed the entire game with a short animation showing the character receiving some reward and a list of credits naming the production team responsible for the game. These endings differed from game termination due to bad gameplay because these ending features could only be accessed by completing the game successfully. *Double Dragon* (Taito, 1987) is one example: after you defeat the last enemy, you see an animation of the player rescuing his girlfriend. These ending features add desirability to successful play. Because it has an ending, a player can finish or beat *Double Dragon*, but can not finish *Pac-Man*.⁸ Like getting a high score, one's ability to beat a game with a set ending is often a source of prestige among gamers. The player, then, might feel suspense in part because they hope to beat a game and generate these desirable outcomes.

As games got larger and more complex, they more frequently had small objectives that had to be achieved to progress to future levels. Modern console games are relatively expensive, and single-player console games (which almost always have a set ending) give a sense of value in part by making the game goals complex and difficult to achieve—i.e., giving players more playtime for their money. One way to allow a player to feel that they are making progress towards beating a large, difficult game is to break the games into smaller, achievable goals (often called "levels" or "worlds"). The player can chart how close they are to the desired goal of finishing the game by using these intermediate set-points.

Ending animations and credits are, in some sense, rewards external to the game because they are not a part of interactive play; they are features that come after the game is over. Game designers can also provide rewards internal to the game itself. Sometimes, as in *Max Payne*, the completion of the entire game will unlock additional modes of play not initially available. Satisfactory progress can also bring access to various rewards, like new weapons and tools not available before certain goals are reached. In *Grand Theft Auto III*, completion of missions opens up new cities for exploration, where faster cars and bigger guns can be obtained. These features are especially desirable if they can only be obtained by very skilled players, which increases their exclusivity. Since gamers usually want to access these features, there can be more at stake in playing the game than the outcome of the current game session. The gamer may be playing to unlock areas for future gaming, and uncertainty at achieving this goal may contribute to their suspense during gameplay.

Another strategy employed by games designers to increase the stakes of play is to implement a rating system. Measuring success in ways

other than points occurs in early arcade games such as *1942* (Capcom, 1984). You get points for shooting down enemy planes, but at the end of each level you are also shown what percentage of enemy planes you successfully shot down. The highest kill ratio was displayed on the machine in addition to the high scores. *Civilization II* (Microprose, 1997), a god-game in which you take a society from primitive settlers to intergalactic colonizers, has two end goals, either of which will end the game: destroy all competing civilizations, or be the first civilization to colonize Alpha Centauri. Success or failure is not a very fine-grained distinction to evaluate players, and the game designers, perhaps in an attempt to increase replayability, programmed a feature by which the game would rate your success using a complex formula that takes into account many features of your civilization, such as overall happiness of the population and number of cities. Significantly, you do not see this rating during normal gameplay, and you cannot win the game by achieving a high rating. The rating exists to evaluate your success after the game is completed. *Grand Theft Auto III* (Rock Star Games, 2000) tallies up a report card/rap sheet listing such factors as the number of lives used, success ratio of missions attempted, time spent, police expenditures (the more the better), and hidden items found. Gamers around the world compete with each other and with themselves to get a better grade, and perhaps a perfect game. These kinds of rating systems can significantly increase replayability by offering new standards of success that increase the challenge. An expert *1942* player may attempt not to just win the game, but to win with a perfect kill ratio. Similarly, a *Civilization II* player that wins the game may replay it in an attempt to get a higher score. Ratings allows non-expert players to win the game and enjoy a certain level of success, while providing a means for more competitive players to push themselves towards achieving very difficult game goals.

As noted earlier, a key part of generating suspense in films is getting the viewer emotionally invested in the film's characters so the narrative outcome seems significant. Videogames sometimes use narrative structures similar to those used in cinema to increase the apparent significance of gameplay. Early arcade games often use a short narrative opening to establish the goal of play and the basic scenario. For example, a game of *Ghosts 'N Goblins* begins with a short animation that shows the hero relaxing with his girlfriend. When Lucifer appears and takes her away, our hero jumps into a suit of armor in preparation for the rescue. *Golden Axe* (Sega, 1989) opens similarly, with an injured man explain-

ing to a warrior that the villain Death Adder has taken the princess. This game, too primitive to use voice synthesis, used dialogue balloons (as in comic books) to indicate dialogue between the two men. Some modern games use an initial movie as more than a framing story that establishes the basic motivation for play and potentially increases the investment the player has in the character. *Max Payne* attempts to arouse anger in the player by encouraging a revenge fantasy to be fulfilled during game play. In the first level, Max's wife and child are murdered while he is trapped in the next room, sending him and us off on a vigilante mission. Periodically throughout the game, Max must revisit the episode, reminding us of the significance of winning the game and killing the villains who murdered his family. *Splinter Cell* and *Halo* also have highly integrated narratives that use animated scenes before and during the game to suggest that, in the fiction, a lot is at stake in the player's success (averting nuclear war and saving the universe, respectively). To the extent that the player imaginatively engages with the narrative aspects of these games, these cinematic elements can increase investment in the game and thus suspense.

V. Uncertainty in Videogames

Now that we have discussed features that contribute to the desirability and undesirability of videogame outcomes, we will move on to features that make certain outcomes more or less likely, which contributes to uncertainty and thus suspense. As discussed above, the built-in uncertainty of games precludes the paradox of suspense, though good games need to overcome the problem of maintaining suspense. Although it is true that in some games there is no guarantee that you can succeed no matter how good you are, it is clear that expert players succeed much more often than novices. As player skill increases, and players begin to master the game, how can games maintain enough uncertainty to allow for suspense?

To overcome this problem, games are developed to provide variation which helps maintain the challenge. On the initial play, most games have increasing difficulty built into the structure of the game, with later levels having stronger enemies and more demanding goals. Once the game is beaten, however, it is not clear how a game can maintain interest on a replay. One method is to vary the situations a player faces upon replay by varying the environments and enemies faced. The growing sophistication of AI programming techniques has contributed greatly to adding variation in this way. Gamers usually play differently each time, so the

degree to which the enemies respond to specific player actions rather than using fixed, built-in behaviors increases the amount of change in their behavior upon reply. In other words, if enemy behavior is not based on player behavior, they will tend to act the same way each time the game is played, whereas if enemy behavior is strongly based on player behavior, there will be much more variation upon replay. If the enemies act differently each time the game is played, uncertainty is maintained. This may be one reason that many players find player vs. player games (and so-called "deathmatch" games) much more involving than single-player games. A thinking, intelligent agent determines the enemy behavior in a deathmatch. Depending on the quality of your opponent, this kind of competition can present a tremendous variety of challenges that a player must overcome, keeping the game fresh and the outcomes uncertain. Exploring a hallway in a deathmatch with a strong opponent is among the most suspenseful scenario in videogames. The outcome is very uncertain and you are strongly invested in a positive outcome—especially since a deathmatch so bluntly ranks players against each other in terms of skill.

In addition to automatically increasing difficulty as the game progresses, some games allow player to manually change the difficulty settings. *Halo* allows a player to begin play with any of four difficulty settings, and once players have mastered the game at one level, they can go back and test their skills again at a different level. *Max Payne* allows the user to unlock a more difficult play mode after the game has been completed on a less difficult setting. This ability to modify the challenge is an important technique game developers have created to keep players interested in repeated play. Adjustable difficulty settings can help increase uncertainty even while the player's skills improve. The tactics that led to success at easier levels may not work at higher levels. Like the ratings system, changing game difficulty allows the player to maintain the game challenge despite being more skilled at the game, and thus to maintain uncertainty and suspense.

Another feature of games that contributes to uncertainty in outcome is the disconnect between the laws that govern our natural world and those that govern the world of a videogame. Consider the jumping behavior of the various characters in videogames. Many early games, such as *Donkey Kong* (Nintendo, 1981) have characters that jump with exactly the same speed, height, and distance every time. Although this behavior does not accord with our intuitive sense of how jumping creatures operate, the simplicity and consistency of the behavior makes it easy to learn.

In contrast, *Super Mario Bros.* (Nintendo, 1985) employs very strange jumping behaviors, in which the acceleration and direction of the jump can be controlled while in the air, leading to jumps that would be completely impossible in our world (such as a jump in which a character lands on a platform directly above where he was standing). While the player is learning how the game's physics work, the disconnect with natural physical laws make it hard to predict what is going to happen, giving the player a sense of uncertainty. It is hard to predict whether you will successfully complete a jump when you do not have a good intuitive understanding of how falling objects act in the videogame. As players become more competent in the controls, they increase their predictive ability by improving their skill at playing the game.

The most suspenseful games, in our experience, feature three-dimensional worlds explored from first or third person. Several factors give three-dimensional games a leg up in the production of suspense. With three-dimensional games, the play space is more complicated, increasing uncertainty and danger. In simple side-scrolling videogames there are fewer possible areas from which an enemy can emerge, whereas in three-dimensional games enemies can come from an almost infinite number of angles. In three-dimensional games, you have to worry that an enemy could be slightly out of view or could be chasing you from behind. Also, three-dimensional games offer much greater potential variety in player behavior, as it would be nearly impossible for anyone to play a game such as *Halo* the same way twice. To the extent that enemy behavior is based on player behavior, then, enemy behavior will be more complicated in three-dimensional games, and thus more uncertain for the player—leading to increased suspense.

VI. Creating Helpless Players

Earlier we described the stance of the traditional fiction audience as one of helplessness. Though cognitively active, outside of interactive media, the audience is helpless to affect the narrative outcome; in videogames, however, the player serves a necessary, contributory role in service of the narration. Andrew Darley argues that film narratives can progress without the input of the audience members, but as Mark Wolf puts it, "videogame play requires input" (13). In reference primarily to single-player games, Bryce and Rutter state the difference between film and videogames this way: "If the spectator/player stops playing a computer game, the game

itself usually stops" (75). Where a film spectator is helpless, unable to affect the narrative, a videogame player is necessarily contributory.

As discussed earlier, suspense requires reflection. This aspect of suspense creates a fundamental obstacle for the videogame designer that we call the problem of suspense for videogames: How can you create suspense for players who are actively struggling in the game, when suspense feeds off helplessness and reflection? Although we have outlined many factors that contribute to uncertainty during game play, and make the player feel that something significant is at stake in the game's outcome, we grant that many games do not generate suspense even if they meet these conditions. What's missing? We have found that the games most effective at creating suspense often put players in situations where they must wait and see what happens, much like a film spectator. This passive position allows the player an opportunity to speculate about possible outcomes and reflect on the consequences of those outcomes. That is, temporary passivity allows the player an opportunity to take desirability and turn it into fear and hope, and to take likelihood and turn it into a judgment of uncertainty. The player is then capable of feeling suspense.

To understand what makes suspense happen, it might be helpful to look at some videogames that are not thought of as suspenseful. Rarely does one hear traditional arcade games like *Galaxian* (Namco, 1979) or *Pac Man* (Namco, 1980) called suspenseful. The principle reason for this absence is that though these games create uncertain situations where something is at stake, they rarely put the viewer into a wait-and-see mode when there are serious stakes involved. They contain moments of rest, but few reflective moments when a fundamental play situation is undecided.

To create suspense, games must induce a feeling of helplessness in their players at key moments. In *Splinter Cell*, for example, you play a secret operative who must carry out stealth operations by hiding in shadows and acting silently. In many situations, if your character is spotted alarms will sound and alerted soldiers will come and kill you. The game forces you to move in spurts, when rotating cameras are looking the other way and guards are making their rounds, while hiding in between.

Crouched in a bush or up flat against a wall, hoping a dog will not walk around the corner and a soldier will not spot you in an unauthorized area, you endure long periods of relative helplessness. You might, for example, be hiding in a shadow, hoping to evade a guard's detection. When the guard walks over towards your character, you might not be able to tell whether he can see you in the shadow, and must wait to see if he moves

away or draws his gun. *Splinter Cell*, in its most suspenseful moments, puts the player in a situation similar to a film viewer, adding the important element of helplessness so useful for the creation of suspense. In addition to such major episodes of helplessness, games can also generate suspense during split-second moments of player impotence. Again, *Splinter Cell* exceeds in deploying this strategy through the basic movement of the character. In one of the last levels of the game, you must execute a series of difficult jumps between small ledges that protrude from the upper reaches of a high castle wall. One small mistake at any point in the vertigo-inducing obstacle course and you risk falling to your death. Your control is limited except at the beginning of the execution of each jump. After initiating each jump, therefore, you are unable to control the character, forcing you into a wait-and-see mode. The jumping behavior of the character defies natural physics—the character jumps somewhat more slowly than a normal person would, but falls faster than normal at the end of a jump, when you have no control. Even on a successful jump, up until the very end, it frequently looks as if the jump will fail. For example, the character will fall past the edge of a ledge, apparently missing it, until he swings his arms up (far more quickly than would be humanly possible in the real world) and grabs onto the ledge at the last second. When you are passively watching him fall towards the ledge, and are uncertain whether he will make the jump, the game can become unbearably suspenseful.

Conclusion

In this article, we present a notion of suspense as having three essential features — fear, hope, and uncertainty — and discuss the relative importance of uncertainty and what is at stake in generating suspense. Due to fundamental differences between the way people experience film and videogames, each has different virtues and limitations for the creation of suspense. Film creates suspense by getting us to emotionally invest in characters and then presenting us with opposed prospective outcomes' to allow for uncertainty. We have seen how film can use techniques, such as providing or withholding information, to increase the suspense. Film also emphasizes the spectator's inability to affect the narrative world, which is essential in creating a sense of helplessness. These features are essential to creating suspense.

Videogames hinder their ability to create suspense through their limited use of narrative, but the trend in games of all types is strongly

towards integrating narrative features with the gaming experience. Features of videogames, such as progression of difficulty, enemy behavior, methods of evaluating play, and player-to-player interaction, contribute to uncertainty and increase the stakes in videogame play. Although we have used suspense as a test case to explore how videogames can generate emotion, presumably it is clear that these features of games contribute to other emotions as well — such as frustration, involvement, and satisfaction.

The most surprising conclusion of our analysis is that videogames can be most effective in generating suspense not by highlighting their unique ability to be interactive, but, to the contrary, limiting interactivity at key points, thereby turning players into helpless spectators like those that watch films. Discovering this technique in video games allowed us to turn our attention back to film, where we were able to highlight a previously ignored feature of the viewer film interaction, namely, helplessness.

Although we have concentrated on formal analysis, we hope our discussion offers some useful frameworks for other approaches as well. Topics such as role-playing, gender identity, and online communities are popular in videogame literature, but there is often only anecdotal support for general conclusions about how gaming affects spectators. By looking at the component parts of suspense and the techniques used by videogames to generate it, we can move past generalizations to specific arguments about how, for example, playing an opposite-gender character can affect what's at stake for a player in game success. If a player is strongly connected to an online game community, they may fear game failure more than a casual player, or have greater hope that they will get recognition from other players for their gaming abilities. In this way, we see our analysis not as a limited approach, but useful both in itself and as a building block towards larger claims about how videogames and films affect individuals in society. 10

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Endnotes

There is a growing body of literature debating whether videogames should be studied from the standpoint of narrative or of gameplay. Janet Murray, in *Hamlet on the Holodeck*, argues that the most desirable future of videogames will be closely tied to narrative art. Jesper Juul and other ludologists reject narrative analyses of videogames. Henry Jenkins provides a clear discussion of the debate in his article, "Game Design and Narrative Architecture."

² We are comparing videogames to traditional, non-contributory fiction. Contributory fiction, such as interactive film and participatory theatre are often considered precursors of the player / game relationship. See Ryan for a discussion of this issue.

'Other factors also input into fear and hope feelings. People are often more afraid, for example, of very unlikely things (such as death by shark attack) than likely things (such as death by car accident) even if the actual likelihood of the unlikely event is small. A full account of fear and hope would also consider factors such as desensitization and imagination.

Steven Poole discusses how this Hitchcockian technique is impossible in videogames, since the distance between the character and the player necessary for dramatic irony is absent (81).

The film actually fools the viewer about McClane's understanding. The viewer thinks that McClane is fully unaware of Gruber's identity, when he actually strongly suspects it, and gives him an empty rather than a loaded gun.

⁶ In a confusing, off-the-cuff remark Mark Wolf assumes that increasing player control and interactivity increases suspense: "While similar 'shock' cuts can be used in the cinema, in videogames it is the player who decides when to cut to the next scene, and so there is an element of responsibility, control, and decision making that one does not find in the cinema which is often used to add an element of suspense to the design of a game" (60). If Wolf means that the added personal stakes add to the fearfulness of a videogame, we agree; however, if he means that having control increases suspense, then his remarks are opaque and need further exposition.

⁷ See Frasca for some elaboration on the differences between "play" and "games." Crawford also discusses the role of conflict in games, endorsing the notion of progress indicators.

There is some discussion of a programming error in *Pac Man* that results in a scrambled left side of the screen at level 256. Getting to this point is, to some gamers, to have beaten the game.

⁹ Carroll describes traditional narration as erotetic—posing question that the audi-

ence seeks answers for later in the fiction. Bordwell discusses the role of the audience in piecing together information about the story from what the narration offers in the plot.

¹⁰We would like to thank David Bordwell and Noel Carroll for helpful comments on an early draft of this paper.