Paralysing Fear: Player Agency Parameters in Horror Games

Casper S. Boonen & Daniel Mieritz
IT University of Copenhagen
Rued Langgaards Vej 7
DK-2300 Copenhagen, Denmark
cboo@itu.dk, dmie@itu.dk

ABSTRACT
The horror video game genre is dedicated to building suspense and scaring its players. One of the ways in which it achieves this goal is through the manipulation of the player's agency. With this paper, we seek to examine and identify elements used to manipulate the agency of the player in horror video games, to see how they can be used to evoke horror and dread within the player. To this purpose, a qualitative humanistic approach has been applied, through the analysis of six horror games. Our results indicate several common themes, found in the elements used to manipulate player agency. Based on these themes, we have developed an Agency Parameter Model, illustrating a hierarchical relationship between different categories used to manipulate agency. At the core of the model are three overarching categories: Player Character Parameters, System Parameters, and Player Parameters.

Keywords
Agency, horror, video games, intention, affordances, constraints, human-computer interaction.

INTRODUCTION
Horror video games is an often-researched genre within game studies (e.g. Krzywinska, 2002; Perron, 2012; Weise, 2009). One reason for this is the genre's strong ties to its predecessor, horror films, with many of the earlier conventions carrying over into the new medium (Weise, 2009). However, even with common conventions and formulas, horror games can differ widely from each other in terms of gameplay, game-structure, and settings of the game-world. One area where horror games differ significantly from their film counterpart is in the inherent inclusion of a player in games. As opposed to the audience of film, the player cannot merely observe the spectacle, but has to actively participate in it to realise the game (Aarseth, 2007). This type of interaction is often described as agency (e.g. Calleja, 2011; Perron, 2012). Though agency has been defined variously by multiple academics (e.g. Murray, 1997; Wardrip-Fruin et al., 2009), the definition used in this paper is that of Wardrip-Fruin, Mateas, Dow, & Sali (2009), being a phenomenon that occurs when desired player actions corresponds to those supported by an underlying computational model (p. 1).

Scholars have already made noteworthy attempts towards exploring player agency within horror games, whether through the application of terms such as gameplay emotions (Perron, 2012) or interactivity (Krzywinska, 2002). Especially in horror games, a genre dedicated to building anxiety and scaring its subjects, the degree of control the player has over the game-world can purposefully be used as an expressive resource which can be manipulated by the game and its developers (Harrell & Zhu, 2009). While there seems to be an agreement amongst game scholars that the player's agency, or the lack thereof, has a significant importance in horror

games (Krzywinska, 2002), the exact details of what elements can be manipulated remains unmapped in their entirety.

The goal of this paper is to examine and identify the various elements used to constrain, afford, and manipulate the agency of the player, to reveal how agency is used to evoke horror, terror, and suspense within the player. This is done based on a small number of distinct horror video games analysed through a qualitative approach.

THEORETICAL CONTEXT

A "game" is a phenomenon with various different and conflicting definitions (Salen & Zimmerman, 2004, Chapter 7: Defining Games, p. 3). Ludwig Wittgenstein suggests not viewing games as clearly and separately defined, but rather as sharing traits and relations, in a manner he refers to as "family resemblances" (Wittgenstein, 2009, p. 73). This perspective can arguably be necessary to avoid disagreements based on choice of exemplars alone over the actual claims presented (Calleja, 2011, p. 9). As we wish to focus on the actual phenomena uncovered through our analysis, rather than what precisely constitutes a horror game in its general definition, we have chosen to draw on Wittgenstein's suggestion. We extend this understanding of games to encompass horror games and its subgenres, regarding them as being a collective concept with an amount of overlapping similarities and individual differences.

The Traits of Horror Games

To discover the "family resemblances" of horror games, one might look to earlier horror media. Matthew Weise's essay, "The Rules of Horror" (2009), concerns procedural adaptation in horror games - "the concept of taking a text from another medium and modelling it as a computer simulation" (p. 238). The essay concerns two case study examples of procedural adaptation in horror games; that of "stalker simulations" and "zombie simulations", adapted from stalker and zombie films respectively. When using the term "simulation", Weise refers to this as "rule systems that are intended to replicate the behaviours one finds in […] the source system", the source being less of a "system" and rather a set of genre conventions (p. 241). For stalker simulations, this includes typical elements like a "Final Girl", the main protagonist, whose goal is not direct physical confrontation, but to survive and escape (Weise, 2009, p. 243). For zombie simulations, two prominent conventions are "the behaviours of the zombie itself" and "the dynamics of dwindling safety which are the common dilemma of zombie film protagonists" (2009, p. 252).

Turning to Bernard Perron and his book, *Silent Hill: The Terror Engine* (2012), Perron echoes Weise's (2009) sentiment of there being a strong tie to cinematic forms. Another central sentiment from Perron is the importance of the notion staging; "Fear, to exist, needs to be staged, and this mise-en-scène requires capabilities" (Sical and Delekta, cited in Perron, 2012, "Slowly Getting into a World", para. 7). The visuals, audio and underlying technical system must support the whole and be adequate in order to instil a sense of fear within the player (Perron, 2012).

One researcher examining the role of agency in horror games is Tanya Krzywinska. In her paper "Hands-On Horror" (Krzywinska, 2002), she emphasises the interactivity involved in horror games, and an oscillating rhythm of "doing" and "not doing" within these games. She acknowledges that such a rhythm is present in all video games, but that they take on a particularly significant role in horror games, because it "ties into and consolidates formally a theme often found in horror, in which supernatural forces act on, and regularly threaten, the sphere of human agency" (2002, p. 13). Krzywinska further describes the presence of an element of predetermination, a "higher power", that lies outside of player influence, dynamically

putting players in situations of being in control or being out of control (2002, p. 14). In fact, Krzywinska states that this interchanging dynamic is "key to the specific types of suspense and emotion-based pleasures offered by horror games" (2002, p. 19).

Agency as a Phenomenon

In an attempt to illuminate the general conditions under which a player will experience agency in any interactive experience, Michael Mateas (2001) has proposed a model which maps what influences the player's expectations for action in interactive drama. In Mateas' model, he explains how the player's intentions become a source of formal causations – meaning that by having their own abstract plan, or goal, the player's intention becomes the formal cause of activity affecting the thoughts, language and actions of their avatar. However, the player's ability to take action is constrained by multiple aspects; the material resources in the game, and the formal authorial causation of the plot (Mateas, 2001, p. 144). The game provides the player with material resources, or material cause, for taking action. As Mateas puts it: "The only actions available are the actions supported by the material resources present in the game" (2001, p. 144). However, these resources do not only constrain certain actions, but can likewise afford actions supported by the system. Besides experiencing material affordances and constraints from the material resources of the game, the player can also experience formal affordances and constraints from the plot. If the player understands the formal causation of the plot, it can help convey to them what to do and why they should do it. Mateas explains that the material constraints can afford action, while the formal constraints afford motivation; "This motivation is conveyed as dramatic probability" (2001, p. 145). He claims that when there is a balance between the material and formal constraints, the player will experience agency.

Based on Mateas' work, an attempt at describing, and nuancing, agency and its characteristics has been made by Wardrip-Fruin et al. (2009). In their article, "Agency Reconsidered", they seek to provide a new understanding of the term agency. In their words, agency is "a phenomenon, involving both the game and the player, one that occurs when the actions players desire are among those they can take (and vice versa) as supported by an underlying computational model" (2009, p. 1). In our study, we will use this definition of agency to discuss our subject.

As mentioned, Wardrip-Fruin et al. draws upon Mateas' earlier work to identify how games evoke the desires that agency can satisfy. Wardrip-Fruin et al. (2009) supports the argument that the actions desired by the player are shaped by the dramatic probabilities of the game, and to experience agency, these actions need to be available in the game. The dramatic probabilities both shape the constraints and affordances for the player's actions. If the actions available to the player do not correspond to their expectations from the dramatic probabilities, the player will experience a lack of agency. As such, Wardrip-Fruin et al. emphasise the importance of supporting the player's desired actions through the underlying computational model to promote the feeling of agency – and likewise, to entice the player to desire actions that the computational model supports (2009, p. 7).

An additional nuance to the term agency is presented by Harrell and Zhu (2009). They argue that agency should be perceived as an expressive resource that can be manipulated through multiple dimensions to achieve meaningful and aesthetic effects in interactive narratives. Harrell and Zhu (2009) exemplify this by explaining how limiting or temporarily eliminating agency can be used to convey certain feelings or messages, such as a sense of confinement or helplessness – emotions and sentiments especially relevant to the horror genre, such as described by Krzywinska (2002).

METHODOLOGY

For this study, a humanistic approach has been adopted, as per Aarseth (2007). This entails that the focus of our study is games as aesthetic, expressive objects, and not a specific, situated player(s) and their actions or experience of the games. Though our focus is on the games, rather than the player, we do acknowledge that games need to be played by someone, and that it results in a limited perspective to not consider the involvement of a necessary player entity to realise the game. By positioning an implied player (Aarseth, 2007) as a function of the games, we try to exclude our personal potentially subjective interpretation of the games during our analysis, while acknowledging that it is impossible (Aarseth, 2007, p. 132). In this way, the role of the player is recognised, while simultaneously being considered a component of the game, rather than a situated, physical player.

The games we have included in this study are *Amnesia: The Dark Descent* (Frictional Games, 2010), *Dead Space* (EA Redwood Shores, 2008), *Left 4 Dead 2* (Valve Corporation, 2009), *Little Nightmares* (Tarsier Studios, 2017), *Layers of Fear* (Bloober Team, 2016), and *Until Dawn* (Supermassive Games, 2015). They were purposefully selected because of their variation in gameplay and distinct sub-genres, in order to gain a nuanced understanding of horror games. Given our adherence to not viewing the genre of horror games as rigidly defined, the six games were chosen based on general overlapping characteristics found within the genre of horror, as well as the presence of a crucial staging of horror.

Our approach to studying our corpus of games has been to play them together. While one author was playing the game, the other would observe and write fieldnotes, switching the roles every 30-60 minutes. This way, we could reinforce our hands-on playing experience with the game by observing aspects of the game which might otherwise have been lost during the heat of the moment from the player's perspective. We recorded the on-screen gameplay while we played the games to be able to refer back to specific moments later. As a supplement, we have carried out general background-research on fora, wikis, and sites like YouTube. Our empirical basis is thus a combination of hands-on experience, observations, fieldnotes, and recordings.

After having played the games, we began a deductive initial coding of our notes by identifying themes and patterns relevant to our study. As we selected a small number of core themes, we then pursued a more focused coding of our data. The results of this is presented in the following section.

MODEL DEVELOPMENT

This process led us to create an Agency Parameter Model (see Figure 1), which describes the different elements that can constrain and afford the agency of the player in horror games. The model does not necessarily apply exclusively to horror games, but within the scope of this paper, the focus is on horror and its subgenres, rather than comparing differences between horror games and non-horror games. We will, however, return to the discussion concerning the model's potential in other genres later in the paper.
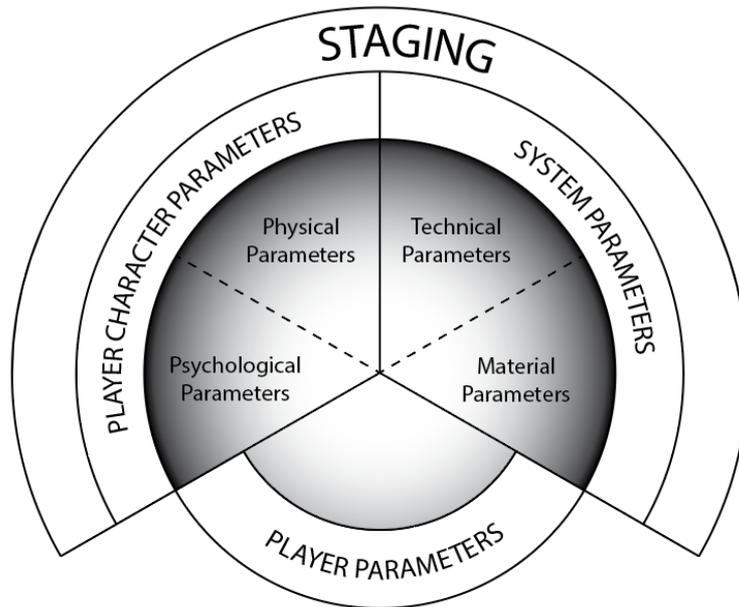
Figure 1: The resulting Agency Parameter Model, illustrating a hierarchical relationship between elements that can constrain and afford player agency.

At the core of the model are the three top-categories: *Player Character Parameters*, *System Parameters* and *Player Parameters*. Player Character Parameters concerns the factors that pertain to the player character, this being their *Physical-* and *Psychological Parameters*. The System Parameters cover the constraints and affordances emerging from the game's system and world, both *Technical-* and *Material Parameters*. Finally, the Player Parameters are an expression of the player's abilities to execute their intended actions. The gradient within these three top-categories depicts the dynamic and static aspects of the parameters. At the centre are the dynamic parameters, and at the edge are the static ones. The distinction between these two phases can at times be blurred (hence the gradient) through the interplay between game entities, mechanics and the player. Likewise, the categories themselves occasionally overlap each other, as game elements can apply several constraints or affordances at once, despite their distinct characteristics. Encapsulating the parameters, with the exception of Player Parameters, is *Staging*, which communicates the dramatic probabilities and covers the mise-en-scène of horror games. This is to indicate that the Player Character- and System Parameters are influenced by, and a result of, the overall staging of the narrative.

 To briefly describe each category: Physical Parameters are what limits or enables the player from taking actions which are outside of or within the physical capabilities of the player character, respectively. Likewise, the Psychological Parameters limits or enables the player's actions through the player character's psychological capacity. One such example could be if a character suffers from a mental disorder constraining certain actions.

 The Material Parameters that a horror game can use to influence and manipulate the player's agency are derived from the materiality of the game-world. This includes elements in the environment restricting player movement such as cliffs or alarms, resources to be managed, or enemies acting upon the player character. It is what the player character interacts with, and what can act upon the player character in turn. In many ways, it is what Mateas (2001) describes as the material causality of the game.

The Technical Parameters refer to the instances where player actions are simply not supported by the game's computational model. An instance of this would be if the player encounters a small ledge they wish to jump to, only to discover that the game does not support jumping, despite controlling an otherwise physically capable player character.

As described earlier, Player Parameters lie outside of the influence of Staging. We argue that this is the case as constraints on the player's agency can occur when the player is unable to execute desired (and supported) actions, or complete the challenges set forth by the game. These constraints do not occur because the game is unfair or unbeatable, but because the player makes mistakes, does not react fast enough, or has not understood the game rules. As such, these constraints emerge from the player rather than the game itself. Likewise, if the player is experienced or skilled with a game, actions are to a greater degree afforded because of this. Unlike the Player Character- and System Parameters, the Player Parameters category only includes dynamic phases. The reason we have not included static Player Parameters in this model is because we apply a humanistic approach and thus consider games as aesthetic objects, which includes a notion of an implied player. While static Player Constraints might occur - an example of this being if the player is missing a hand and cannot properly use the controls - these cases adhere to specific, situated players, and not an implied player. Furthermore, games requiring the player to play with some kind of handicap fall outside the scope of this paper, such as games requiring the player to be blindfolded or hold the controller upside down. In focusing only on the components of the game, the model has forgone attempting to describe the player's subjective reaction, even if the implication of each component and their potential effect is considered still.

APPLYING THE MODEL

To exemplify the use of the model, we will go through each category and highlight examples of how the model can be applied to our corpus of games, followed by an in-depth examination of *Amnesia: The Dark Descent* to illustrate the interplay of the categories.

Exemplifying the Categories

Staging

Amnesia: The Dark Descent (referred to as *Amnesia* henceforth) is rich in staging; the great manor in which the game occurs has an ancient, eerie atmosphere to it, practically falling apart as the player progresses through it. Monsters roam the dark corridors, with body parts and blood littering the halls, and supernatural elements as well as apparent hallucinations occur frequently, such as the sound of footsteps practically trailing the player character.

While *Until Dawn* uses a great deal of staging, too, it does so through more specific existing horror conventions – specifically those of American slasher/stalker horror films. It utilises its self-portrayal as a typical slasher simulation to create specific player expectations, and at times plays with these expectations, using them against the player by subverting the conventions. Likewise, formulaic camera angles, scare tactics, sound effects, and creation of suspense are used to direct the player's expectations. Through this staging, the game builds up its dramatic probabilities, which helps convey the player's motivation for action.

Physical Parameters

Left 4 Dead 2 features a great amount of zombies; these all pose dynamic Physical Parameters that can constrain the player. The ordinary zombies alone barely pose a threat, but together, the horde can physically limit the player's freedom of movement through sheer mass while inflicting enough damage to kill them. Special zombies

with different abilities are further able to immobilize the player, either by pinning them down or taking partial control over their movement, while simultaneously damaging them greatly. Thus, while the player character's physicality affords them agency to act and move within the game world, that same agency can also be constrained dynamically.

Little Nightmares also manipulates the player's agency through Physical Parameters throughout the game, though these are often more of a static nature. Six, the main character, is much smaller than both the game-world and the enemies (see Figure 2), which consistently both constrains and affords player action, while equally shaping their expectations. Due to her size, she is, for example, able to escape through small passages, while it is impossible to physically confront the much larger enemies.

Figure 2: Six climbing a cabinet in *Little Nightmares.*

Psychological Parameters

In *Amnesia*, the wavering sanity of the player character is heavily emphasised, posing numerous constraints on the player's agency through dynamic Psychological Parameters. These are particularly dependent on the varying levels of light and darkness in the areas of the game, alongside the occasional appearance of the game's monsters. Staying in darkness, or looking directly at the monsters, drains the player character's sanity, while being exposed to light makes the player character regain it.

The wavering sanity of the player character is also a central element of *Layers of Fear*. Here, however, it is more of a static parameter, blending with the staging to create the underlying effect of uncertainty about the game-world. If the player character is mentally unhinged, and the game-world is largely imagined by the player character, then what can be said to be real? In this way, the Psychological Parameters frames the rest of the game's parameters, simply by how it interplays with its Staging.

Material Parameters

Dead Space includes a great number of enemies, and to counter them, the player has diverse weaponry at their disposal. It is particularly when managing these weapons and the accompanying ammunition that the player oscillates between empowerment and disempowerment – a form of dynamic Material Parameters which the game relies heavily upon, both affording and constraining the player's agency. If the player

manages their resources well, they have numerous options against the enemies; if not, their options are significantly limited.

Amnesia also makes use of Material Parameters to constrain and afford player agency in the form of resources and enemies. For *Amnesia*, however, the available materials do not allow the player the agency to act against the game's monsters; instead, the resources are used to regulate the player character's well-being and navigate the game-world.

Technical Parameters

Until Dawn offers the players some choice over the progression of the game's narrative, by giving them the agency to make crucial choices - within limits. A Technical Parameter present in this interaction which constrains the player's agency is how the game only presents the player with a small number of actions to choose from through, e.g. dialogue options (see Figure 3); if the player wants the character to make a different action than the ones presented, it simply is not possible.

In *Layers of Fear*, some Technical Parameters originate from the Staging and Psychological Parameters of the game. Many doors close behind the player once entered, suddenly and without explanation, while other doors are simply not interactable. The player is never able the exit the mansion in which the game takes place, no matter how much they should wish to, and some options for interaction or exploration are regularly unavailable.
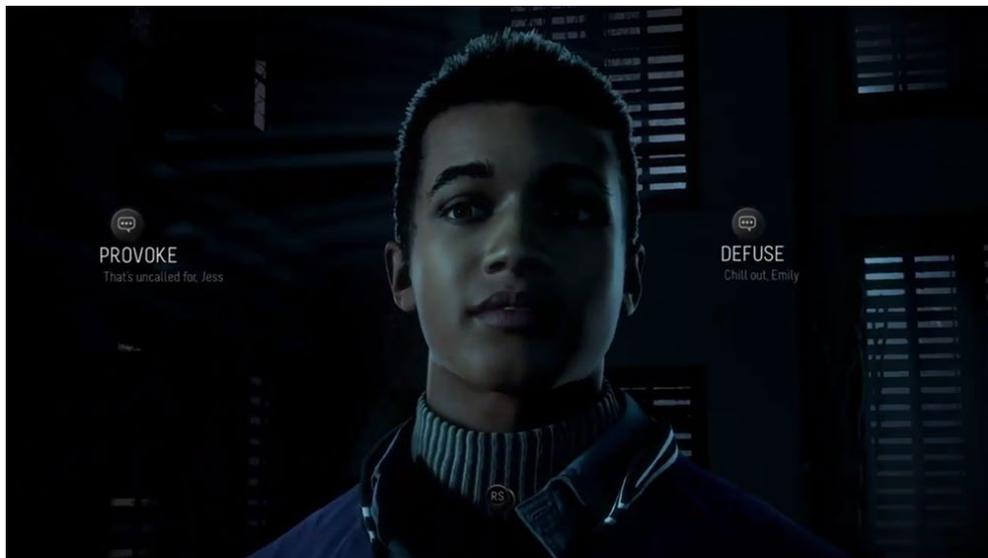
Figure 3: Two available dialogue options ("Provoke" or "Defuse") in *Until Dawn*.

Player Parameters

Dead Space, alongside other action-oriented games like *Left 4 Dead 2*, continuously challenges the player's skill - particularly through its combat and action elements. Here, emphasis is on mastering the controls and the available tools to overcome the game's monsters, where difficulty is a natural part of the gameplay – and, in fact, part of what creates the game's horror. While constraints posed by Player Parameters can result in a halt of the player's progress, we would argue that this can be seen as an intended, expressive element of the game, as it is not meant to be easy. The player is supposed to feel challenged, and that they are surviving only by a hair's breadth, adding pressure and fright when encountering enemies, and terror of the prospect of coming across them. While the player has every tool and ability in the game

necessary to deal with the challenges, the constraints they face when failing lies with their inability to execute the tasks required by them.

Player Parameters takes many shapes, and in *Little Nightmares*, they include escaping the enemies, navigating the environment, and solving various puzzles. Escaping the enemies is both a question of not being discovered in the first place, and of fleeing to avoid being captured. Likewise, if the players are unable to solve a puzzle, they simply cannot progress further into the game.

Unfolding *Amnesia*

To illustrate how the categories of the model interplay with one another, we will in this section apply the model to *Amnesia*, to show how the model can be used to naturally unfold the agency parameters and staging of the game. *Amnesia* was chosen for this in-depth example due to its emphasis on Staging and extensive use of every category in the Agency Parameter Model.

Amnesia is a first-person survival horror game, released in 2010. The game takes place in 1839, inside the dark and ominous Castle Brennenburg which the player explores over the course of the game by controlling the protagonist, Daniel.

Figure 4: Daniel using the lantern to illuminate his surroundings in *Amnesia*.

When Perron (2012) refers to a staging of horror, a mise-en-scène almost essential to the horror genre, *Amnesia* exemplifies the application of Staging, and it is this aspect of the model that makes up one of the most prominent elements of *Amnesia*. From the very beginning, the scene is set; in a cutscene, the player follows the perspective of Daniel as he mutters to himself about forgetting and remembering, shambling through the dark, gothic corridors of Brennenburg. Continuing onwards, the player discovers numerous notes scattered around the castle, written by Daniel himself. They both serve as ways to expand the narrative of the game and to provide clues to the player about what to do next – establishing the dramatic probabilities (Mateas, 2001) – as well as setting the atmosphere of the game. The environment adds to this atmosphere as well: Castle Brennenburg itself gives off the feeling of being old and abandoned, shrouded in darkness and on the verge of falling apart (see Figure 4). The game's theme is only partially set by the notes and overall setting, however; an even more present and prominent element of Staging are the traditional horror elements that the player encounters throughout the game. Among these are subtle details, like the

wooden platforms creaking suspiciously akin to footsteps, or unnerving noises in adjacent rooms. They are joined by supernatural elements and hallucinations, such as a piano playing by itself, or lights suddenly blowing out. Additionally, there are the more horrific elements, including piles of cadavers, body parts, blood, and torture instruments – not to mention the repulsive monsters that patrol the castle, called Gatherers, encouraging cautiousness from the player. The Gatherers are a threatening force to the player, used to evoke alertness and suspicion of every closed door or turn of a corridor for fear of what awaits them.

The appearance of these occasional monsters is just one element which provides notable constraints on the player's agency. The game relies heavily on dynamic Psychological Parameters of the player character, Daniel, that ties into the horror elements of the game's staging. In the player's inventory, Daniel's "sanity" is illustrated through the interface, and hovering over it with the cursor will display its status. His sanity can be reduced, and once it is, the ensuing effects occur. At the lighter levels, cockroaches appear both in the environment and on the screen, or the player might hear Daniel gasp and his heart beat loudly; further down the scale, Daniel's vision can blur, making it harder to navigate the environment, or slow his movement, making it more difficult to either hide or flee from monsters. It is through these effects that the player is constrained by Daniel's psychological state of mind. For that reason, the game incentivises the player to keep Daniel's sanity at a somewhat manageable level.

In regard to staying in (or out) of darkness, there are usually sections of each area that are lit, providing Daniel with momentary relief. If this is not the case, however, the player has two options at their disposal: their lantern, obtained early in the game and powered by oil, and un-lit light sources around the map, lit by tinderboxes - both posing Material Parameters. The lantern (see Figure 4) can be brought out at any time to light up the nearby area, soothing Daniel and making it easier to navigate through dark passages, but simultaneously burns oil at a pace where the player has to be mindful of their use of it. The un-lit light sources can, if lit, provide a constant source of light in a small area, but one that is stationary, with each light consuming one tinderbox. Thus, while affording the player the freedom to use them, they also provide material constraints on the player's agency, as the tinderboxes can only be used in specific locations, and the oil depletes quickly, meaning that the player has to use their resources wisely to not run out.

The game-world further constrains the player's agency through *Amnesia's* monsters. Just as Daniel struggles to move large rocks, he is too weak to fight the Gatherers; in this sense, the player is subject to Physical Parameters of the player character. As a few hits from the monsters will kill Daniel, the player is encouraged to hide from, outrun, and outwit them, akin to the traits in stalker films and simulations described by Weise (2009). Simultaneously, Daniel's sanity is reduced by looking directly at the monsters, which relates back to the Psychological Parameters; avoiding them is made more difficult if the player cannot directly observe them, and so, the player has to choose between keeping track of the Gatherers and losing sanity, or trying to outmanoeuvre them without looking directly at them. Darkness can aid the player in staying hidden from monsters – but darkness also actively reduces Daniel's sanity. The lantern might be used to counteract this effect, but includes the risk of attracting the Gatherers, thus posing another constraint for the player.

DISCUSSION

Through the development and application of the model, a few points emerged that prompted further discussion.

In its current form, Player Parameters are considered outside of the game's Staging, and static Player Parameters are not included in the model. Our reasoning has been discussed earlier in the paper, but even so, it would not be unthinkable that another version of the model could include the entire spectrum of "dynamic to static"

within the category Player Parameters, or that it should be encompassed by Staging. For one, it might be argued that even if the player's personal constraints and affordances do not originate from the game itself, unlike the Player Character- and System Parameters, the player is still influenced by the context, or staging, of the game. In this sense, the player's ability to act as intended might be compromised as a result of the game attempting to stress or scare the player. Even so, for our model, we considered this aspect too independent from the game itself, and particularly so as we attempted not to take the mindset of a real, situated player into consideration, but rather as a direct function of the game (Aarseth, 2007). An example of this independence are factors like whether the player plays during night or day; the darkness of night might aid the game in its staging of horror but is outside of the direct influence or control of the game.

It cannot be assured that our model will be applicable to every horror game but based on the results and tendencies observed through the process described in this paper, we believe the model maintains a certain validity. At minimum, it can function as a preliminary model for describing aspects that can constrain and afford player agency in horror games. To explore the breadth of our model, it would be advantageous to apply it to even more games, of both different types and subgenres, to adjust and expand it. However, it should be emphasised that the model itself is not intended to be used as a tool to precisely distinguish what qualifies as a horror game, nor is it meant to distinguish subgenres of horror from each other. Though further research might reveal whether some parameters are typical in different subgenres, this question is out of the scope of this study, as we rather perceive games as having overlapping similarities (and individual differences) rather than rigidly defined criteria.

Further, it is important to highlight that our model has been based on, and is meant for, single-player games where the player is embodied in the game through a concrete in-game entity. Games where the player remains conceptual or abstract, without inhabiting or being situated in the game-world, fall outside the scope of our study. As we have no empirical basis from horror games, or games in general, with multiple players, we cannot justifiably make any claims about the nature of multiplayer-games, or their relation to the model we have developed.

While the model is specifically based on horror games, due to their distinct staging of horror and their crucial aspect of disempowering and acting upon the player character, we will not dismiss the possibility of the model's use in other genres. As agency is important to consider for any game (Wardrip-Fruin et al., 2009), it is arguably relevant for all genres in games to map what aspects can be used to afford or constrain the player's agency. At this time, we can only speculate that while other genres might include categories from our model, their surrounding Staging and dramatic probabilities might be what makes them different from horror - and vice versa. One might argue that games like *Half-Life* (Valve Corporation, 1998) and *Gone Home* (The Fullbright Company, 2013) at times are similar to horror games to some degree, as they use staging in a horror-like fashion, though they do not follow up on this staging through their gameplay. While they use horror elements, they are, at their core, not horror games. They do, however, exemplify how games can have "family resemblances", and points towards the possibility of applying the model, or a modification thereof, to other genres than horror.

CONCLUSION

Based on the horror video games examined in this study, our findings indicate that player agency can be manipulated through a variety of elements in horror games. We have developed an Agency Parameter Model to categorise these different elements based on our theoretical framework and the patterns we observed in our empirical data. These categories have been named Player Character Parameters, System Parameters, and Player Parameters. The Player Character Parameters are further

divided into two sub-categories, Physical- and Psychological Parameters, as does the System Parameters have two sub-categories, Technical- and Material Parameters. With the exception of Player Parameters, these categories are all influenced by, and a result of, the game's dramatic probabilities and its staging of horror. The purpose of this is to illustrate that the material- and formal authorial causation of the game's narrative is what motivates action and makes action possible for the player. Furthermore, the structure of the model is intended to depict a hierarchical relationship between the included elements. The player character and the game-world are functions of a predetermined narrative, and so there are elements that afford and constrain player agency in order to communicate this narrative, and make the player assimilate the atmosphere of the game and feelings of the player character. We have identified these manipulations of agency in horror games in various elements: The player character's psychological- and physical capabilities, the game-world acting upon the player through enemies or the environment, limited resources, as well as restricting the player from acting in a way that is not supported by the underlying computational model of the game. Moreover, these elements span across a spectrum of dynamic and static phases, meaning that some parameters might be present throughout the game, while others dynamically change their manipulation of the player's agency.

The goal of this paper has been to examine and identify the various elements used to constrain and afford the player's agency in horror games, to reveal how agency is used to evoke horror, terror, and suspense within the player. By having constructed and applied the Agency Parameter Model presented in this paper, we have provided a tool that can be used to identify and describe elements through which agency can be purposefully manipulated. We argue that this can be used to provide further insight into how horror games seek to make the player assimilate the emotions of their avatar.

BIBLIOGRAPHY

Aarseth, E. (2007). I Fought the Law: Transgressive Play and the Implied Player. In N. Segal & D. Koleva (Eds.), *Proceedings of the 2007 DiGRA International Conference: Situated Play* (pp. 130–133). The University of Tokyo.

Blooper Team. (2016). *Layers of Fear.* [PC], Aspyr, Poland: played 25th of February 2018.

Calleja, G. (2011). *In-game: from immersion to incorporation.* Cambridge, Massachusetts: MIT Press.

EA Redwood Shores. (2008). *Dead Space.* [PC], Electronic Arts, California: played 24th of February 2018.

Frictional Games. (2010). *Amnesia: The Dark Descent.* [PC], Frictional Games, Sweden: played 12th of February 2018.

Harrell, D. F., & Zhu, J. (2009). Agency Play: Dimensions of Agency in Interactive Narrative Design. *AAAI Spring Symposium: Intelligent Narrative Technologies II*, 44–52.

Krzywinska, T. (2002). Hands-On Horror. *Spectator*, *22*:2, 12-23.

Mateas, M. (2001). A preliminary poetics for interactive drama and games. *Digital Creativity*, *12*(3), 140–152.

Murray, J. (1997). *Hamlet on the Holodeck*. New York: The Free Press.

Perron, B. (2012). *Silent Hill: The Terror Engine*. University of Michigan Press.

Salen, K. & Zimmerman, E. (2004). *Rules of Play - Game Design Fundamentals*. Cambridge, Massachusetts: MIT Press.

Supermassive Games. (2015). *Until Dawn.* [PlayStation 4], Sony Computer Entertainment, England: played 19th of February 2018.

Tarsier Studios. (2017). *Little Nightmares.* [PC], Bandai Namco Entertainment, Sweden: played 13th of February 2018.

The Fullbright Company. (2013). *Gone Home* [PC], The Fullbright Company, Oregon.

Valve Corporation. (1998). *Half-Life.* [PC], Sierra Studios, Washington.

Valve Corporation. (2009). *Left 4 Dead 2.* [PC], Valve Corporation, Washington: played 27th of February 2018.

Wardrip-Fruin, N., Mateas, M., Dow, S., & Sali, S. (2009). Agency Reconsidered. In *Proceedings of the 2009 DiGRA International Conference: Breaking New Ground: Innovation in Games, Play, Practice and Theory* (Vol. 5). Retrieved from http://www.digra.org/wp-content/uploads/digital-library/09287.41281.pdf

Weise, M. (2009). The Rules of Horror: Procedural Adaptation in Clock Tower, Resident Evil, and Dead Rising. In *Horror Video Games: Essays on the Fusion of Fear and Play* (pp. 238–266). North Carolina: McFarland & Company, Inc.

Wittgenstein, L. (2009). In P. M. S. Hacker & J. Schulte (Eds.). *Philosophical Investigations* (4th ed.). Blackwell Publishing Ltd.