

Non-Player Companions:
Ludic Rapport and Emotional Interaction in Video Games

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Sid Meier once said that sometimes during the long process of creating a game, the designer starts doubting the quality of their work, questioning their ability to complete it or if there is any value in it at all. He calls this the “Valley of Despair.”

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Working definitions¹

- **Agent:** an independently (fully or semi-autonomously) operating program.
- **Video game characters:** agents through whose actions and interactions a game narrative is told, performed and experienced.
- **Player-character:** a video game character controlled by the player, usually acting as the game's protagonist. Player-characters are governed by their own desires and motivation and have an established background, personality, goals, and relationships that players explore through them.
- **Non-player character (NPC):** characters that players do not control directly but can interact with via different means. NPCs can fill several roles in video games, such as enemies, allies, merchants, or companions, among many others.
- **Companion:** NPC that accompanies the player-character for the entire or most of the duration of a video game. While companions used to act primarily as gameplay tools, in contemporary games companions are embedded in the narrative in meaningful ways.
- **Narrative (video games):** the sequence of events that unfolds in a game which may be either linear and pre-scripted or branching and emergent. Narrative can be conveyed through different means such as in-game dialogue, cut scenes, or environmental storytelling, among others.
- **Mechanics:** rules that organize the causal relationships between the interactions of the different agents and objects in a game according to how play progresses. Mechanics determine what happens when and what conditions affect victory or defeat (if these are elements present in the game) or other final outcomes.

- **Gameplay:** the performative stage that demands the player's active participation.

Gameplay is executed by interacting with the mechanics and bounded by the game's rules.

Introduction

The medium of video games is a highly conflicted one. On the one hand, a medium of superlatives, boasting sales figures that dwarf most other entertainment media, presenting the most cutting-edge technologies of all entertainment and featured in various industries, ranging from education and healthcare to the military and robotics. On the other hand, it seems as if video games are in constant pursuit of recognition, searching for validity from more established institutions. This is a contradiction that might be settled as the medium matures, but it can also be better understood when considering the range of genres, platforms, playstyles, and subjects presented by and handled in video games.

The current variety of themes players get to experience in games is one of the most fascinating aspects of the medium's evolution. Video games today allow players to take part in anything from galactic warfare on an epic scale, in the form of massively multiplayer games produced by hundreds of people with the budget of a Hollywood blockbuster, to intimate, personal, and emotional stories told by a single independent game designer. In most cases, games are anywhere in between, yet it is usually ones dealing with complex emotional themes that the industry showcases to validate its place among other cultural and artistic artifacts, at least in mainstream media circles. That is not to say that such games are more important than the others, as the sustainability of the medium depends on its diversity, but media perception matters.

Shaping this perception is perhaps easier today than ever. When game designer Andrew Stern offered his opinion twenty years ago, he was not wrong in claiming that “very few successful pieces of interactive entertainment or art have been made with emotional content for a mass audience — that is, the kind of ‘personal relationship’ stories that books, theater, television, and

movies offer, or the kind of “high art” exhibited at museums and art shows” (Stern 2002: 335). However, if emotional involvement is considered the benchmark for producing art (and art is often seen as capable of evoking strong emotions), then contemporary video games are not only part of the conversation; they are reshaping it.

Discussing emotions is at the heart of this study, which aims to explore what makes video games emotionally engaging (in unique ways) and understand what (or who) are the characters we interact with in virtual worlds. I am primarily interested in such “personal relationships,” particularly between video game players and non-player characters (NPCs) in the form of companions. In considering how such relationships can be analyzed (namely, how they are formed, developed, and maintained during dozens of hours of play), I refer to the state social psychologists call “rapport” — generally defined as a positive and meaningful interaction — while examining methods used by game designers to create characters that “do not feel like *functional* objects in a game sequence, but rather like *believable* functioning subjects that are not simply shaped or bent by or to the player’s action and will” (Barlev 2021: 1).

Undoubtedly, there is much to unpack when analyzing the multilayered dynamics of players, player-characters, and NPC companions. This includes understanding their form and function, as well as applying these dynamics to a positive emotional context. However, while things such as the medium’s success or popularity can easily be measured using data and stats, assessing emotions in video games is more complex. To begin with, “emotions”¹ is such a broad term that it can be applied to almost any human experience. As argued by psychologist Richard Hazlett who dedicated his research to developing methods of measuring emotional experiences, emotion organizes and energizes human behavior, “and therefore underlies the gaming experience and the player’s attitude toward the game” (Hazlett 2008: 188). With “experience” being so subjective, can we properly

evaluate if playing an indie game about an abusive, alcoholic father in *Papo & Yo* (Minority Media Inc. 2012) evokes stronger emotions than the frantic competition in a battle royale game such as *Fortnite* (Epic Games 2017)? We can attempt, as Hazlett argues, to develop a game's emotional profile using physiological measurements of emotions such as arousal measures, facial expressions, and biometrics (Hazlett 2008). The leading expert on emotions in video games, Nicole Lazzaro, for example, identified through different methods of players' observations over thirty emotions evoked by gameplay (Lazzaro 318: 2008). These were generated in and from different forms of "fun," as appearing in 'The Four Keys of Fun' model Lazzaro first introduced in 2004 (Lazzaro 2004).

These player-centric studies are valuable not only for supporting the argument that "emotional engagement and reaction are the fundamental driving force of the gaming experience" (Hazlett 2008: 203), but also to help us understand how different games "have particular emotional signatures based on the objectives of the game and the methods used by the designers to engage the player" (ibid.: 193). While these types of studies tip towards understanding players, the role games play in the process is not negligible in current Game Studies. In his book *Half-Real* (2005), Jesper Juul points to a basic dichotomy concerning whether we should study the games themselves or the players who play them. Game scholar Dmitri Williams elaborates on this divide while also criticizing both sides: social scientists who mainly seek to understand the effects of games on users, and humanists, who seek to understand the meaning and context of games, resulting in "a missed opportunity" to better establish the field of Game Studies and understand video games as a whole (Williams 2005: 1). Juul provocatively argues that "it would be perfectly possible to propose that we look exclusively at the games "themselves" while ignoring the fact that they are played by people" (Juul 2005: 20).

This, of course, is a paradox, not only because people play games but also because games are *designed* for (and by) people. Every aspect of game design must consider the player, whether via affordances of the hardware, objects, and virtual characters we control and interact with, or through an ‘emotional design’ aimed to evoke emotions in those who play them. The discussion on which elements should be considered when studying games was always divisive among scholars, understandably when considering how many layers constitute digital games. One of the earliest observations trying to construct a methodological framework for analyzing games came from Lars Konzack, who outlined seven different layers of the computer game:

Hardware, program code, functionality, game play, meaning, referentiality, and socio-culture. Each of these layers may be analyzed individually, but an entire analysis of any computer game must be analyzed from every angle. Thereby we are analyzing both technical, aesthetic and socio-cultural perspectives (Konzack 2002: 89 in Aarseth 2004: 2)

Seemingly, this approach allows us to analyze games from multiple disciplines and choose which elements to focus on in our quest to understand games better. Espen Aarseth, one of the “founding fathers” of the field of Game Studies, discussed this by saying: “The strength of Konzack’s model is also its weakness: the seven separated layers, which appear to be equally important. However, depending on one’s perspective, it seems obvious that, say, gameplay is more important than hardware, and also, in most cases, than referentiality” (ibid.). At the same time, Aarseth suggests that layers should not be seen in isolation, but analyzed together for best effect (ibid.). Hence, the question of one’s perspective is crucial here, especially when considering the role of emotions in games. Should we label emotions under meaning or gameplay? Since the layers

are interconnected, are emotions not affected by aesthetic and socio-cultural perspectives? Alternatively, should we consider emotions as an additional, separate layer?

Let us view this from another perspective, one which considers the framework of a video game. According to Beat Suter, “a game is always a dynamic system composed of different formal and dramatic elements combined into a working structure” (Suter 2018: 19). He explains:

In addition to clear rules, this includes the definition of the players, the goal, the processes, the conflict, the result, and in the dramatic area a story, characters and the linking of narration in a particular dramaturgical sequence. The game as a system includes all these elements and claims its own (dynamic) game world (ibid.).

This much later (at least in terms of Game Studies) definition, while considering some of the layers discussed by Konzack, better reflects video games’ unique position at the intersection between technology and the arts. While they are technology-based, video games share properties with literature (narrative), are manifested in the forms of other audial-visual media (aesthetics and presentation), and operate and interact with the player using attributes exclusive to the medium (mechanics and gameplay).

Does this give us a better understanding of emotional engagement in video games? I believe it does, not only because it allows us to apply theories from other fields and observe games through different disciplines,² but also because processes are more integral to the experiences I am interested in analyzing. Consider, for example, Juul’s game definition listing six features (in bold):

A game is a **rule-based system** with a **variable and quantifiable outcome**, where different **outcomes** are assigned different values, the player exerts **effort** in order to

influence the outcome, the **player feels emotionally attached to the outcome**, and the **consequences of the activity are negotiable** (Juul 2005: 48 – 49).

One of the key features is the player's attachment to the outcome, which Juul considers as the defining psychological feature of the game activity, resulting in happiness when winning or sadness when losing. Curiously, since this feature is not related to the player's efforts, Juul suggests that it depends on the player's attitude toward the game (ibid.: 52). This is different from being attached to the process, which is more relevant to the objective of this study. It does not suggest that Juul's observation is flawed, as he clearly discusses how this feature depends on the player's attitude, circling back to the importance of considering video games from a broad perspective (while evaluating specific features of interest). Also, as will be discussed extensively in this dissertation, every action in a game results in an outcome, meaning that if we consider Juul's definition beyond terms of 'winning' and 'losing,' this can, in fact, be applied to processes.

As Aarseth argues, since a game is a process rather than an object, "there can be no game without players playing" (Aarseth 2003: 2). This can be clarified further and expended when considering the dimensions³ that characterize every video game according to Aarseth, and the general elements to be found in them:

- Gameplay (the players' actions, strategies and motives)
- Game-structure (the rules of the game, including the simulation rules)
- Game-world (fictional content, topology/level design, textures etc.) (ibid.).

This can assist in placing the player-and-game/system in context, yet to better understand the emotional aspect of video games, we need to consider a fundamental question: why do we play them?

Why do people play video games?

It is virtually impossible to find any text dealing with video games, whether academic or game design oriented, that does not pose this question at a certain point. In approaching it, researchers and designers generally gravitate towards the same dichotomy presented earlier, discussing either motivation for play and player types or dealing with games' attributes and features that make engaging with them desirable. This is once again a false dichotomy since discussing why certain players are attracted to certain game types must include both. There are several leading theories⁴ demonstrating this that most texts refer to in discussing the question of why we play.⁵

One of the earliest attempts (1996) to develop player-type taxonomy was made by game designer Richard Bartle, an industry icon who created the first Multiuser Dungeon (MUD) game. Based on responses from online forum posts, Bartle divided players into four categories which he named and classified as Achiever, Explorer, Socializer, and Killer; every person tends to exhibit traits from all four types when playing games, but many tend to lean more heavily toward one of the types (Kapp 2012: 132 – 133). Considering his background in developing online worlds, Bartle's classification works best when considering multiplayer games where players can communicate with one another, although some of the characteristics can be applied to single-player games as well.

While this model has been generally accepted as a helpful tool often cited by both designers and academics, Bartle himself points to a few flaws: firstly, the model suggests that players change type over time but does not suggest how or why they might do so, and secondly, all of the types to some degree, but especially the one for acting on other players, have sub-types that the model did not predict (Bartle 2005: 2). Bartle attempted to resolve these issues by presenting an updated model that contains implicit/explicit variables and adding subgroups for the initial taxonomy:

“Implicit action is that which is done automatically without the intervention of the conscious mind; explicit action is that which is considered or planned for, generally as a means to achieve some desired goal or effect” (ibid.).

Social scientist Nick Yee’s research into gameplay motivations built and expanded on Bartle’s types. According to Yee, players display “different motivations to take on different characteristics at different times and with different games,” meaning that types would be fluid and not fixed (Yee 2006). Yee identified three clusters of gameplay motivations, which relate to: achievement, which focuses on different ways of gaining power within the context of the game; social interaction, which is about different ways of relating to other people in the game; and immersion, which considers different ways of becoming a part of the story (Yee 2014: 29). The motivations within each cluster, Yee adds, correlate with one another yet are largely independent of motivations in the other two clusters (ibid.). Immersion, in particular, suggests that different types of games would not only allow for different kinds of playful experiences, but also appeal to players differently (Richard 2014: 203).

Game designer Jon Radoff suggests similar gameplay motivations, although he bases his theory on an evolutionary perspective. Radoff presents a schema of interactions and behaviors that include four categories: 1) achievement, which focuses on mastering skills; 2) cooperation, which is about interactions and working together to achieve a shared goal; 3) competition, which derives from our will to emulate leaders among us and be like them (or take their place); and 4) immersion, giving objects and systems meanings (such as stories) beyond their usability, which is essential to encourage engagement (Radoff 2011: 11:15 – 16:00).

Another exciting source attempting to understand play and players is a model proposed by game designer and creative director Jason VandenBerghe. In a 2012 Game Developers Conference

(GDC) talk titled ‘The 5 Domains of Play: Applying Psychology’s Big 5 Motivation Domains to Games,’ VandenBerghe proposed that the motivational psychology theory mapping the “big five personality traits” (openness, conscientiousness, extroversion, agreeableness, and neuroticism), could be applied to video games and help developers predict player’s choices and behavior. In collaboration with academics and industry colleagues, VandenBerghe translated and applied the Big 5 into a spectrum of players’ motivations, which he referred to as the five domains of play. In brief, these are (in bold):

1. **Novelty** addresses players looking for the newness of a game experience and correlates to openness.
2. **Challenge**, related to players’ consciousness, deals with how much effort or self-control the player is expected to use.
3. **Stimulation** deals with the engagement of the play experience, related to players’ level of extroversion.
4. **Harmony** relates to player agreeableness, focused on collaboration and social play.
5. **Threat** is described as the presence and strength of negative emotional triggers and relates to neuroticism. (VandenBerghe 2012, Richard 2014: 204).

VandenBerghe and his team further developed and revised this model to include a set of player archetypes (and the games they would play) and offer tools to apply it to game development (VandenBerghe 2013).

These are all valuable sources suggesting what type of experiences certain people might look for in specific types of video games. Other models considered design based on core game pleasures, chief among them being Nicole Lazzaro, mentioned earlier. Lazzaro and her research group conducted extensive interviews and observations of different types of players. They

suggested that people play games in four ways, identified as “keys” to unlocking player emotions. Players enjoy the opportunity to master a challenge (Hard Fun), fire their imaginations (Easy Fun), explore altered states (Serious Fun), and socialize (People Fun). Based on her research, Lazzaro argues that “each of these playstyles offers the player a distinct set of emotions that come from different ways of interacting with a game” (Lazzaro 2019: 282).

While Lazzaro acknowledges that this taxonomy might not apply to all players, she argues that overall (specifically in the case of most commercial, mainstream games), “players play to experience these body sensations that result from and drive their actions” (Lazzaro 2004: 7). In addition, Lazzaro offers a valuable observation, stating that each “key” is a “collection of game mechanics that unlocks a different set of player emotions” (Lazzaro 2019: 282). Since game designers cannot directly create the experience of play, Lazzaro argues, “they design rules that create the emotional response in the player” (ibid.). The correlation between game mechanics and emotions is significant in this study and will be discussed and developed throughout the dissertation.

Game designer Mark LeBlanc contributed to this discussion by proposing a list of eight pleasures he considers the primary “game pleasures.” Asking to move beyond terms such as fun and gameplay to a more direct vocabulary for discussing games, LeBlanc offered the following taxonomy, focusing on the kinds of experiences that elicit pleasure:

1. Sensation: game as sense-pleasure, often delivered through game aesthetics.
2. Fantasy: game as make-believe, involving imagination and experiencing as someone else or with other attributes.
3. Narrative: game as drama, experiencing a narrative unfolding through play.
4. Challenge: game as an obstacle course, players enjoy solving problems through play.

5. Fellowship: game as a social framework, pleasures of friendship, cooperation, and community aspects.
6. Discovery: game as uncharted territory, referring to pleasure from discovering new things while exploring a game environment or finding a new strategy or exploit.
7. Expression: game as self-discovery, creating something or expressing oneself through gameplay or game affordances and tools.
8. Submission: game as a pastime, referring to the pleasure of entering the game space, a magic circle where a more enjoyable set of rules and meanings can be found. (LeBlanc in Hunicke et al. 2004: 2, Richard 2014: 207).

Since every game is “fun” in its own right, LeBlanc considers this taxonomy to be much more informative in considering the aesthetic components — describing the desirable emotional responses evoked in the player when she interacts with the game system — that create their respective player experiences. In addition, a game can pursue multiple aesthetic goals in varying degrees. While it is by no means a “definitive” list, considering, as LeBlanc argues, “the lack of a Grand Unified Theory of games or formula that details the combination and proportion of elements that result in fun, this taxonomy helps us describe games, shedding light on how and why different games appeal to different players, or to the same players at different times” (LeBlanc in Hunicke et al. 2004: 2 – 3).

Indeed, this list does not cover all game pleasures, as LeBlanc admits. Game designer Jesse Schell reminds us to “use caution when trying to make such simple taxonomies to describe something as complex as human desire” (Schell 2015: 129). Under close scrutiny, Schell adds, gaps will always be found in such categorial lists, “and when misused can gloss over subtle pleasures that might easily be missed” (ibid.). Even though Schell proposes additional pleasures to

consider when playing video games (such as anticipation, humor, surprise, or thrill, among others), he acknowledges that there are “many, many more. I list these pleasures that fall outside of easy classification to illustrate the richness of the pleasure space” (ibid.: 130).

We clearly see overlapping motivations and types of players and pleasures in all the theories presented,⁶ with each model framing its findings differently in terms of perspective and discipline. In addition, many of the motivations and pleasures listed are the “usual suspects” when thinking about video games and the image of people who play them. Obviously, all models and theories have limitations, and we cannot (and should not) expect to find a theory covering all the “possible pleasures human beings have come to find enjoyable and motivating” (LeBlanc in Hunicke et al. 2004: 3).

One of VandenBerghe’s research conclusions was that “we tend to play for the same reasons we live” (VandenBerghe 2012: slide 77). We can try to map such reasons (which clearly we do), point to the most common ones, and translate them into experiences, but we still will not be able to present a full spectrum of motivations. Should we settle then for statements such as the one made by game designer Stephan Bura,⁷ that “Players play to feel emotions”? (Bura 2008). It certainly reinforces the need to address these emotions, offering valuable insight into game design. However, we should not stop there. We must build upon and expand the excellent research done to further understand emotions, interactions, expressions, and experiences in video games, especially ones not often addressed. The main objective of this study is to contribute to this discussion, considering, as Schell mentioned, pleasures that fall outside of easy classification. In this case, the companionship between players and video game characters.

Motivations and objectives

In 1966, MIT professor and computer scientist Joseph Weizenbaum published a program capable of conversing with its users in standard English. The program was an elementary version of what we refer to today as a chatbot, a form of an independently operating program known in computing as an “agent.” It was named ELIZA, designed to present “herself” as a psychotherapist. ELIZA’s “trick” was that it could recognize strings of characters that made up words and respond to users by making a few grammatical substitutions. It rearranged words users were typing and, by mirroring their remarks, could present relevant and believable responses. ELIZA could also recognize keywords that triggered preprogrammed responses. For example, if a user typed “I feel sad,” ELIZA could respond, “Why do you tell me that you are sad?” or “I am sorry to hear that.”

Naturally, the program did not understand what “sad” actually means, but it did not stop users, including ones who knew how it operates, from relating to it as though it did understand. Even though users knew ELIZA could not empathize, they confided in it and projected their feelings as though it was a person, an impulse Sherry Turkle named the “ELIZA effect” (Turkle 1984).

In the mid-1960s, digital games were an experimental novelty found in selected university labs, and ELIZA was obviously not designed as a video game character. The ELIZA effect, however, is a key concept in defining and understanding our relationship with digital entities, virtual characters in particular. In the early 1990s, computer scientist Joseph Bates and his research group explored the potential of marrying agent technology with storytelling media. The team took advantage of the ELIZA effect to create believable virtual agents, characters that can form the *illusion* of a living being and convince players they are interacting with an entity “whose existence

is consistent and coherent in the context of the virtual world it is situated in” (Avradinis et al. 2013: 1).

Nearly five decades after the creation of ELIZA, the character of Elizabeth came to life in the critically acclaimed video game *BioShock Infinite* (Irrational Games 2013). Elizabeth was a non-player character, a showcase of a believable video game character regarded by many as one of the most beloved video game companions ever created. Both ELIZA and Elizabeth — like many of their kind — aimed to achieve a similar goal: allowing users/players to suspend their disbelief and consider them not as digital objects, a *something*, but as believable subject, a *someone*. They were designed to encourage rapport at a point of tangency between technology and fiction, and succeeded in establishing one of the most essential feelings in human interaction: a sense of companionship. Game journalist Lucas Sullivan opened his review for *BioShock Infinite* with the following paragraph:

Companionship. It’s one of the strongest emotions you can feel in any work of fiction. Your connection with an imaginary character seems real, born organically through a shared experience and the challenges you overcame at each other’s side. It’s the presence of companionship that elevates *BioShock Infinite* from being a great game to an astounding one, imbuing the exhilarating FPS gameplay with a sense of genuine humanity (Sullivan 2013).

In video game research, however, companionship with NPCs is usually a sidenote in the broader discussion on social play. As seen from the cases presented earlier, scholars and designers all include a social element between players in their models (Bartle’s socializers, Yee’s social interaction, Radoff’s cooperation, VandenBerghe’s harmony, Lazzaro’s people fun and LeBlanc’s

fellowship). This is undoubtedly important, demonstrating that video games can be a social activity and refuting an early popular image that video games are socially isolating. In fact, many of these models were built based on online games and their communities, reflecting how video games today are rarely experienced alone.⁸ While single-player games dominated the market in the early days of games as a mainstream industry, most contemporary games feature online components regardless of platform and allow players to interact and socialize with other players constantly. Hence, it makes sense for researchers to examine the socio-cultural aspects of gaming communities alongside other social aspects.

Schell presents a compelling argument that, historically, most games before the advent of computers were rarely played alone. Play is a social activity, and Schell argues that the single-player phenomenon is a temporary abnormality, “born partly because of the novelty of single-player interactive worlds and partly because of the technological limitations of game software and hardware” (Schell 2015: 394). He adds that as we see more and more game platforms being online and connected, “it is becoming the case that games not featuring a multiplayer component are once again becoming the rare case” (ibid.).

While multiplayer and online games dominate the market, single-player games are still the best showcase of the medium’s evolution and innovation. These are the games that carry the emotional depth the medium can offer, the games that win awards and cultural recognition. Although the video game industry does not have a standardized award ceremony, Geoff Keighley’s Video Game Awards is the most popular and widely accepted, generating an estimated 85 million views. Since its inception in 2014, out of the eight winning games for “Game of the Year” (the equivalent of the best picture), six were single-player games with established narrative and characters.⁹ To put it plainly, if online Battle Royale and mobile games are the money-makers, the

game industry equivalent of Hollywood summer blockbusters, single-player, narrative-based games are the Oscars winners.

Designers of such games explore not only new emotionally impactful themes but also design new ways to deliver them by utilizing video games' unique features. The result is single-player games with no multiplayer or online features at their core that offer players an entirely different kind of relationship to explore: strong rapport and meaningful interactions with NPC companions. When discussing social play in single-player games, NPCs serve as players' counterparts in the interaction. We can consider models presented by other scholars and designers and attempt to apply them in our analysis of such interactions, but these are designed with player-player interaction in mind, and their application appears forced rather than tailored explicitly for this purpose.

Lazzaro, for example, discusses the importance of social play in the form of 'people fun' as one of the four fun keys. She argues that "all games offer an excuse for social interaction and forming social bonds," and, while multiplayer games "do so explicitly, single-player games can also form a social experience" (Lazzaro 2009: 44). Lazzaro suggests that one way to achieve this is with several players contributing to progress through a game by "taking turns at the controller or other forms of explicit cooperation" (ibid.). More relevant to this study, Lazzaro argues that another way single-player games can leverage 'people fun' is via NPCs, describing games without enough 'people fun' as "lonely experiences that players are less likely to show and share with their friends," adding that, "while not all games need to include other players or NPCs, those that manage to include these opportunities well, can create a significant amount of engagement from doing so, because players then care on a number of additional levels" (ibid.: 45). While Lazzaro argues that some player-NPC interactions can provide a similar pattern of 'people fun' as found in multiplayer

games, namely “cooperative and competitive situations, as well as chances to mentor, lead, or perform” (ibid.), she does not discuss the characteristics such characters need to display or how interaction can facilitate the formation of rapport that can adequately (pretend to) substitute interaction with real people.

Katherine Isbister, a prominent human-computer interaction researcher and games scholar, is the primary scholar to discuss in detail the possibility of NPCs functioning as social beings in video games.¹⁰ Isbister, whose role in the discussion on emotions will be elaborated in Chapter One, argues that designers can use the expression of emotions “in both the player-character and in NPCs in a game to powerfully influence the feelings of the player him/herself” (Isbister 2008: 313). As one of the leading scholars applying social psychology to the study of video games, Isbister suggests that any time a designer makes a game social at all, “such as when there are non-player characters (NPCs) on-screen, they are evoking the player’s social skills in a powerful and unconscious way” (Isbister 2009: 52).

Isbister’s main contribution to the discussion on game characters (both player and non-player) can be found in her influential 2006 book *Better Game Characters by Design: A Psychological Approach*, where she discusses ways to create more emotionally engaging game characters by applying effective principles of psychology. While some practical design principles are slightly outdated, the social principles presented in the book are highly relevant for this study. Isbister identifies two major functions that characters play in games: “acting as the player’s vessel in the game world (player-characters), and providing social companionship and assistance or resistance (nonplayer-characters, or NPCs)” (Isbister 2006: 199).

To distinguish these two functions, Isbister presents a concept from social psychology and sociology that she argues can greatly benefit designing NPCs: social roles. According to Isbister,

“social roles are mutually recognized sets of expected behaviors and reactions that a person will engage in with respect to another person” (ibid.: 225). These make such roles a valuable tool since “they can provide a framework for predicting where emotional moments with NPCs will be expected by the player” (ibid.: 201). Isbister suggests a detailed breakdown of the most commonly found social roles in games (such as allies, mentors, sidekicks, and enemies, among others), in addition to offering design pointers focused on creating social and emotional interactions with the player (ibid.). Ultimately, she demonstrates how meaningful social interaction can be formed with virtual characters within virtual worlds, explicitly discussing not only how social roles in virtual environments can “shape a person’s expectations about how she or he will relate to others (both human and digital)”, but also that “out of these expectations arise possibilities for powerful emotions” (ibid.: 227).

This approach is an excellent foundation for the current study focusing on player-and-companion interaction. ‘Companion’ might be viewed in a more general sense than a specific social role (Isbister does not include ‘companion’ in her list of roles), but it allows me to explore different types of interactions and focus on what makes them meaningful, leading to the powerful emotions Isbister mentions. As discussed in Part One of this study, such interactions are based on the feedback loop between players and the game as a system, contributing to the emotional engagement games evoke. To unfold the impact of the feedback loop offered by the medium, I examine video games’ unique elements such as interactivity, rules, systems, and choices, all crucial in understanding the role players’ freedom and autonomy plays in a game, therefore impacting our relationships with NPCs.

For the purpose of examining our relationships with such characters, there is a need first to understand not only what they are but also to discuss their capabilities and the forms of interactions

they offer players. Since these are technology-based entities, we must also ask how their digital function and virtual form either hinder or support their believability, a key aspect of unlocking companionship. We should also address virtual agents/characters beyond “traditional” game characters, including from other fields, and consider how they form the illusion of believable interaction. In addition, since video game characters operate in unique environments, we should evaluate if and how interactivity might jeopardize their believability. The topic of believable agents/characters is crucial in the discussion on companionship and will be explored extensively in Part One of this dissertation.

Equipped with a better understanding of video games’ emotional impact and the characters that help to evoke these emotions, Part Two proceeds to ask how video games build (ludic) rapport between players and such believable characters. For this purpose, I have developed an original model¹¹ that allows us to isolate key components in forming rapport in video games, analyze their significance and function, and apply them to games centered around meaningful interactions between players and companions. Motivated by Isbister’s approach to game research, the development of the ‘Ludo-Rapport Interaction’¹² (LRI) model draws inspiration from the study of social psychologists Linda Tickle-Degnen and Robert Rosenthal (1990) on the nature of rapport, identified as a dynamic structure of three essential and interrelated components: mutual attentiveness, positivity, and coordination. These elements are then translated into three core components in video games: narrative, mechanics, and gameplay, each correlating to a participant in the interaction: player-character, companion, and player (Barlev 2021: 2). As will be demonstrated by analyzing selected case studies, the study argues that player-and-companion rapport can be formed best by combining these three interrelated components and that such

relationships can dramatically enhance players' gaming experience in engagement and emotional investment.

Methodology and limitations

It should be clear by now that Game Studies offer an extraordinary range of research opportunities. As Paul Martin displays in his study (see endnote 2), "It is a truism that game research is multidisciplinary" (Martin 2018). Scholars across the academic disciplines, Martin adds, "are working on computer game topics as diverse as machine learning, representations of gender, character design and cognitive rehabilitation. There are marked differences across this scholarly work in terms of theoretical frameworks, methodological approaches and institutional infrastructures, making it difficult, and perhaps unhelpful, to corral all game research under a single discipline" (ibid.).

This makes sense when considering the seemingly contradictory elements constituting a video game, explaining why Game Studies tend to be scattered across different departments and disciplines. Tracy Fullerton discusses how video game study programs have arisen in "technical schools, some in art schools, and others in a staggering variety of disciplines that cross the humanities, arts, and sciences" (Fullerton 2019: preface). Indeed, there is no roadmap for the study of games, and considering how vastly different games are from one another (despite being labeled the same), there cannot be one research approach fitting all.¹³ As Aarseth explains, the "omnipotential for simulation means that computer games can portray, in principle, any phenomenon we would care to think about, and so, also in principle, no research area is excluded" (Aarseth 2004:

1)

This study is no different in its methodology, drawing ideas and inspiration from various disciplines and approaches, including computer science, AI research, media studies and social psychology. At its core, however, it is embedded in Video Game Studies, appropriately utilizing other fields to its advantage, all crucial for its understanding, as video games are a collective of elements utilized in unique ways and to different degrees and purposes. This is supported by Martin, who discusses how, despite the multidisciplinary nature of the field, “the assortment of research has something in common: an interest in better understanding computer games; how they are made, what they mean, what people do with them, how they might help or harm us” (Martin 2018). According to the objective of this study, it is necessary to include different aspects of game research perspectives. These perspectives are, according to Aarseth:

- Game rules: game design, business, law, computer science/AI
- Gameplay: sociological, ethnological, psychological etc.
- Game-world: art, aesthetics, history, cultural/media studies, economics (Aarseth 2004: 3).

Applying these perspectives (or their combinations) to tangible research means we can study every aspect of the design based on our research objective. One of the most valuable resources for the study of game design is the ‘Game Developers Conference’ (GDC), which I often refer to in this dissertation. From its humble beginning in 1988, GDC is now the game industry leading professional event where game designers, researchers of various fields and game scholars share their design philosophies, goals, motivations, and challenges, as well as innovative ways to study and research games. While interviews with game designers can provide valuable insight into the development of specific games, I hope the abundance of sources this study references, many of which derive from leading designers and scholars in their respective fields, provide the validity for the arguments made in this study in the absence of direct interviews. I see this study as a preliminary

exploration of the relationship between players and NPCs in games, hoping to establish and further develop the subject in future research and include direct interactions with designers of relevant games.

Another mode of research we can employ is trying to understand games through players' observations, questionnaires, and interviews. Notably, this aspect is also absent from this study. There are, however, other means to assess the emotional impact on players. As Aarseth suggests, we can read players' reports and reviews, "and hope that their knowledge is representative and their play competent" (ibid.). Game reviews by experienced game journalists — professionals who are well-versed in the field and display a broad understanding of the medium and the industry — will often be addressed as a reference point to discuss players' perspectives. While not a substitute for empirically based study, game reviews paired with other methods applied in this research are sufficient at this stage for understanding the impact of design on the game experience.

Thirdly, we can play the game ourselves. According to Aarseth, "while all methods are valid, the third way is clearly the best, especially if combined or reinforced by the other two. If we have not experienced the game personally, we are liable to commit severe misunderstandings, even if we study the mechanics and try our best to guess at their workings" (ibid.). The analysis of games is crucial for this type of study, looking specifically at game components that must be identified and isolated to allow us to understand their role in player-NPC interaction. As Aarseth argues, such informed game scholarship must involve play (ibid.).

In the process of direct play, there are several approaches we can use to "read" games that are applied in this study. First, reading the game in its fictional language, namely the narrative, game world and the characters the game hosts. Second, reading it in its ludic language, including aspects such as rules, mechanics, and gameplay. Finally, these can be further developed into a

psychological language, considering, for example, how previous elements impact social roles, rapport, and companionship. There are clearly other aspects of a game we can address while playing, most notably the game's aesthetics (dissimilar to what LeBlanc discusses), which can be broken down further into visual or sound aesthetics, for example. Aesthetics are a key concept in creating believable characters (see Chapter Three), yet they are not identified as an isolated component in the LRI model for reasons discussed in Chapter Four.

In playing and analyzing the games discussed in this study, I refer again to Isbister and her analysis framework of firsthand play. In her exploration of the classic PlayStation game *PaRappa the Rapper* (NanaOn-Sha 1996), Isbister draws “on both my scholarly experience in game design research and my direct experience as a player of this game to illustrate how designers evoke feelings of pride and affection in players” (Isbister 2019: 134). In the analysis performed for this research, I apply both critical and theoretical practice, considering the objective and meaning of games alongside their rule-based, functional values. In addition, the frequent references to game designers who provide insight into the development process, can complement the various methods in which games can be “read” through play.

The games played and analyzed as the main case studies for this research are *A Plague Tale: Innocence* (Asobo Studio 2019), *The Last Guardian* (GenDESIGN 2016), *Hades* (Supergiant Games 2020), and *God of War* (Santa Monica Studio 2018). These are all mainstream, single-player, mostly linear games with an established plot, player-characters, and NPCs, where players do not have the option to create their avatars or control the NPC companion. Genres are a vague term in modern video games, yet if we are to assign one, all these games (with the exception of *Hades*) can fall under the broad definition of action-adventure games. This term does not suggest commonalities between these games aside from the previously mentioned features. There are vast

differences in their development and budget (from indie to AAA), as well as their structure and function. While this study does not evaluate aspects of rapport and companionship that vary according to national culture (a fascinating direction for future research), it is important to note that these games are developed by teams in France, Japan, and the United States.

Most importantly, these games fit the primary criteria for evaluating interaction with NPCs, understanding such interaction as a central theme/feature in the design. Interaction can be narrative-based, embedded in game mechanics, or manifested by gameplay. While different games display different degrees of the dominance of each component, all elements are considered in the analysis. In other words, while these elements are the primary focus of the analysis, games cannot be adequately evaluated solely based on their parts, requiring considering the experience in its entirety.

Since the case studies were carefully chosen to display the effectiveness of the LRI model in forming ludic rapport in virtual environments, the limited scope in which this study can and should be applied is considered and will be discussed further. Lastly, as argued by Aarseth, when choosing the games we analyze in our research, “we must be careful to choose games that not only will confirm our hypotheses, but also potentially refute them. Our choice should be well argued and thoroughly defensible” (Aarseth 2004: 6). In addressing this concern, examples of games and cases that might challenge the arguments brought forth in this study are addressed.

To conclude, conducting this type of research inevitably involves many “moving parts,” with the challenge of maintaining cohesiveness throughout. I find the following observation by Jennifer deWinter to be a valuable principle when approaching this study, aiming to abide by these guidelines and apply them accordingly:

One challenge of critical game studies is not to simply conduct close readings of games; it is also to articulate the design vision, the experience goals of the game

designer, the relationship that the designer has with his or her team, and how that vision finds in-game expression (deWinter 2019: 183).

Structure

This dissertation aims to establish a broad understanding of emotions in games, particularly those evoked via interaction with video game characters. Such characters are explored and defined, followed by a case studies analysis where their role as companions is discussed based on one of several key components facilitating rapport. Hence, this study is divided into two parts. Part One presents an elaborate discussion on emotions in games and the characters players interact with and includes the following chapters:

Chapter One, ‘The (emotional) experience of playing video games,’ is a comprehensive examination of how video games evoke powerful emotions and, ultimately, what makes the medium so emotionally engaging. This topic is unfolded by referring to various scholars and game designers, all offering their valuable perspectives on this matter. This discussion explores video games’ unique elements, such as interactivity, rules, systems, and choices, which are crucial in understanding the role players’ freedom and autonomy play in games. This role inevitably impacts and shapes how players can (or cannot) interact with NPCs in the game. In examining games through their building blocks, Chapter One also tackles the question of what constitutes a meaningful play experience and if (or how) such experience is related to an illusion of complete freedom within game worlds or, alternatively, to our (limited) ability to impact these worlds and their characters in meaningful ways. Finally, to cement the arguments proposed throughout the chapter, additional ways of interaction with video games are discussed, allowing us to better evaluate the role of play and its emotional impact compared to other means of game consumption.

Narrowing the framework of emotional engagement to focus on the role of game characters, **Chapter Two**, ‘Understanding virtual characters in video games and beyond,’ is concerned with establishing what such characters are, how they operate, and what capabilities enable them to act as meaningful virtual partners in different forms of interactions. As part of a more extensive discussion on our tendency to “humanize” technology, the chapter involves additional forms of agents beyond traditional video game characters. Hence, this chapter refers to terms from fields such as computer science and AI research in non-technical, yet sufficiently informative ways, providing us with multiple perspectives in the exploration of video game characters and the emotional attachment players can form with such virtual agents.

A direct continuation of the discussion presented in the previous chapter, **Chapter Three**, ‘Embracing interactivity: ludic rapport with believable companions,’ aims to bring the conversation on emotions and virtual characters closer to the discussion on video game characters and ultimately, to determine which elements both the game and the characters must display to allow the formation of rapport. In this chapter it is argued that the design of such characters needs to include key features that allow players to suspend disbelief and consider them not as agents but as companions. It provides examples of characters across genres and platforms that showcase how different degrees of interactivity can impact their believability, resulting in our ability to form (more or less) meaningful and memorable relationships. By setting the conditions for such interactions and establishing the type of characters that encourage the formation of rapport, Chapter Three concludes the discussions presented in Part One.

Part Two of the dissertation opens with a discussion on the benefits of applying ideas from social psychology in the study of video games. Building on these ideas, **Chapter Four**, ‘The Ludo-Rapport Interaction model,’ presents the research of social psychologists Linda Tickle-Degnen and

Robert Rosenthal on the nature of rapport. Tickle-Degnen and Rosenthal identify rapport as a dynamic structure of three interrelated components: mutual attentiveness, positivity, and coordination. The chapter goes on to discuss video game core components (narrative, mechanics, and gameplay), and explains how each either facilitates or is facilitated by a participant in the interaction (player, player-character, and NPC), forming the “building blocks” for the LRI model. By correlating these blocks and Tickle-Degnen and Rosenthal’s components with corresponding states, the chapter presents the LRI model, the logic of its form and its functionality, followed by its implementation in the following chapters.

The following chapters are dedicated to implementing each component in the interaction based on its dominance in selected case studies. These are **Chapter Five**, ‘Narrative and player-character in *A Plague Tale: Innocence*,’ **Chapter Six**, ‘Mechanics and companion in *The Last Guardian*,’ and **Chapter Seven**, ‘Gameplay and player in *Hades*.’ Each component will be discussed alongside the participant by which it is operated, followed by an analysis of its implementation in relevant game sequences. The case studies all present believable characters that evoke a strong emotional response by displaying many of the characteristics discussed in Part One. Hopefully, paired with their analysis in their corresponding chapters, this examination will allow readers, including those unfamiliar with these characters, to understand and appreciate their significance and emotional impact.

Few rare games present an equilibrium between the different components in forming rapport. **Chapter Eight**, which serves as an addendum, presents such a case. ‘Putting it all together: *God of War*,’ showcases the useability of the LRI model in its entirety. *God of War* is a prime example of a video game in which each component was designed with player-companion interaction in mind, where narrative, mechanics and gameplay not only complement and elevate

one another, but are simultaneously shaping and shaped by the relationship between all participants, demonstrating the effectiveness of the feedback loop offered by the medium of video games.

Significance of the study

Lastly, I would like to discuss the significance of this study. We are now at a stage where the expressive richness of video games is unquestionable, and the medium's ability to create emotional experiences, which some argue cannot be matched by any other media, are at the center of game design and research. As our expectations from technology and entertainment are higher than ever before, this shift is on a par with trends in human–technology interaction design across numerous industries. Google, for example, created an “Empathy Lab,” dedicated to “design feelings” rather than “design thinking,” asking to transcend products into presence by shifting from the concept of data to aligned values, trust, and growth, or from knowledge and an Intelligence Quotient to wisdom and an Emotional Quotient (Krettek 2019). Simply put, the idea is to incorporate empathy in our interaction with technologies and AI, something we can see in the form of believable agents and their application as caregivers at nursing homes or as education support agents.¹⁴

These shifts are valuable, and video games repeatedly demonstrate their contribution to this process via creative and meaningful incorporation of emotions in their design. Hence, we should also consider broadening the available terms and models used to discuss and study games to address and complement these changes adequately. Consider, for example, the video game genres that were previously mentioned. Games are primarily defined by their mechanics and playstyles, not emotions. As discussed throughout this study, mechanics are one of the most effective means to convey emotions in games, but these can be extremely limited when the content is framed within narrow terms. We delineate most game genres as detached from emotions: first or third-person

shooters, real-time strategy, puzzle games, fighting games, role-playing, action-adventure, and other hybrid genres. The ways we address games stem from the fact that the medium has been a technology and play-oriented one first, giving it a limited repertoire of emotions. However, current game designers often ask to advance past the tradition of genre-specific principles. As Schell accurately argues, “genres come and go, but the basic principles of game design are principles of human psychology that have been with us for ages” (Schell 2015: xli).

This is a transition in motion. As discussed in the opening, we are witnessing a gradual repositioning of games in society, leaning towards culture and art, which is also reflected in the classification of genres. A growing number of game developers in recent years have designed games for personal and social change, positive impact games, or social reality games. While there is no unified term to address such games (understandably considering the diversity of their themes and styles), these initiatives call attention to games’ message rather than form. The term ‘serious games,’ for example, while coined in the 1970s to discuss games’ educational value over amusement, has been adopted to discuss digital games beyond their entertainment function and is used to describe educational games or games promoting critical social messages.¹⁵ As an evolution of serious games, the term ‘games for impact’ is more commonly used and widely accepted. For example, since 2015, The Game Awards have presented a ‘games for impact’ category (revised from ‘games for change’ in 2014), awarded for “a thought-provoking game with a pro-social meaning or message” (The Game Awards 2021a). Games in this category do not share any traditional genre features, and besides their impactful theme and message vary significantly in terms of style, mechanics, gameplay, and aesthetics.

More recent initiatives deal with vastly different types of games, ones classified as ‘wholesome.’ Games under this subjective category are presented in a curated showcase titled

“Wholesome Direct,” aiming to change how we think about which games are taken seriously. As explained on the official Wholesome Games website:

For many years, the most critically acclaimed titles have been the ones with the darkest themes and grimmest depictions of life, but there’s also a whole world of hopeful video games with rich storytelling, innovative gameplay, and beautiful art and sound. We want to be a part of showcasing the breadth of experiences that games can have for players (Wholesome Games 2022: FAQ)

In their most recent presentation in June 2022, Wholesome Direct showcased nearly 100 “feel good” games from across genres, all identified by a shared theme of friendliness and compassion.

While these are all indie, mostly niche games, the explosive creativity of independent developers is positively impacting mainstream games. In addition, such initiatives bring us closer to considering new classification scheme for game genres. For example, author and game designer Erin Hoffman called in her 2015 GDC talk for the need to evaluate games by the core emotions they convey rather than just according to their mechanics. Hoffman discusses the need for a broader array of thematic emotions, suggesting categories such as fear genre, fiero genre,¹⁶ together genre or complicity genre, all evoked by combining different game elements (Hoffman 2015: 10:15 – 11:30). This approach can also redefine how we discuss player-type taxonomies. The aesthetics of play models, previously discussed, ask us to look at games from the perspective of why people play them, whether for challenge, competition, escapism, cooperation etc. This makes sense when we look at games as systems (which they are), but we should also consider the meanings in the

context of these systems. In addition to assigning games and players into less-or-more flexible categories, we must also address them by themes.

The medium keeps pushing towards exploring deeper thematic, intellectual, and personal themes, less bounded by the limits of restrictive mechanics paradigms. Not only should we keep up, but academics, journalists, game reviewers, and anyone else engaged with the medium critically should contribute to how we read, talk and write about games in ways that reflect this transition. We need appropriate tools to distinctly identify games by their themes and the emotions they seek to evoke, a variety of theories, models, and verbs matching the assortment of processes, feelings, relationships, and messages found in games. This dissertation in service of these goals.

PART ONE

Chapter One:

The (emotional) experience of playing video games

‘An emotional meaningful experience’¹ is perhaps not the first idea coming to one’s mind when discussing video games. While the term ‘video games’ itself seems to have the ability to elicit all sorts of emotional responses, even among those who do not actively engage with the medium, the discourse surrounding video games usually focuses on many of video games’ other attributes: the medium’s immense popularity and rapid growth, the social aspects of online play (either positive or negative), the risks or rewards of its interactive nature such as fears of addiction or asocial, aggressive behavior, or the ability to enhance a variety of cognitive skills such as visual-spatial attention efficiency and capacity, working memory efficiency, and several executive functions including inhibition and problem solving (Hemenover and Bowman 2018: 146).

However, as presented in the introductory chapter, discussing emotions² is at the heart of this dissertation. More precisely, the purpose is to explore the emotional condition of rapport between video game players and the virtual companions these players spend dozens of hours with inside virtual worlds meticulously crafted by game designers. Hence, a broader examination of emotions in video games (and of the feedback loop between action and outcome that facilitates many of these emotions) is required to understand how meaningful interactions are formed, developed, and maintained while playing a video game.

This chapter will present a comprehensive review of the way emotions can be translated into video games and the methods game designers use in their games to evoke a strong emotional response from players during their playthrough (and in some cases, long after), as well as the

scholarly quest to understand what makes video games emotionally intriguing. As part of this discussion, I will examine video games' unique elements such as interactivity, rules, systems, and choices, all crucial in understanding the role players' freedom and autonomy plays in games. In examining games through their building blocks, this chapter tackles the question if a meaningful experience of playing games is dependent on the freedom to do anything within game worlds, or, alternatively, on our ability to impact these worlds and their characters in meaningful ways. This discussion is placed against current trends in video game consumption that allow various forms of participation, which from we can understand different degrees of emotional involvement when interacting with the medium by means other than play.

Ultimately, this chapter can be read as a dialogue between video game scholars and video game designers, aiming not only to better understand the role emotions play in the *play* experience but to try and understand what video games are, what meanings they can form and what is it that makes the medium so emotionally impactful, and as a result, meaningful.

Emotions in video game design³

"Players play to feel emotions" (Bura 2008).

Emotions have always played a significant role in game design and have generated great interest in academic research on the field. Scholars today explore a wide range of complex emotions in games, presenting a much broader palette on the subject than the focus on players' negative emotions and psychological effects such as aggression, violent behavior or addiction that was predominant in game research for over two decades.⁴ While the discussion on these topics (and the debate on some of the early findings and theories) is far from over,⁵ more voices than ever in both academia and, to a lesser extent, mainstream media, push for a more diverse discourse on the topic,

asking to understand better what makes games emotionally engaging and how the medium affects players during, and after, playing a video game.⁶

A significant part of the paradigm shift is credited to innovative game designers and how they focus on and implement an emotional design in their creations. Considering the ways games impact players emotionally is not a secondary element in current design philosophy but an anchor in the early design phase. In fact, having behavioral scientists as consultants or as part of the development team is not uncommon in the current game design scene, aiming to create a more emotionally impactful experience for players (either for the experience itself or as a way to lure players into interacting with the game for long periods and spending more money in various monetization methods). Hemenover and Bowman argue that it is a concerted effort by game developers to make games with more emotional impacts that is partially responsible for the rise in popularity of modern video games (Hemenover and Bowman 2018: 125). This is an argument supported by game designer Stephane Bura who said that “players don’t play to complete games, just as readers don’t read to finish books. Players play to feel emotions. Game design is experience crafting for the purpose of emotion engineering” (Bura 2008).

In his book *The Art of Game Design*, Jesse Schell approaches game design from multiple perspectives, which he refers to as “lenses.” According to Schell, the first lens of design is the lens of emotion: “We have a special word for the feelings that rise up from within us: emotions. Our logical mind can easily dismiss emotions as unimportant, but they are the foundation of all memorable experience. So that we never forget the importance of emotions for experience design, let’s make them our first lens” (Schell 2015: 18). According to Schell, game designers must ask what emotions players are having when they play, and why (ibid.: 19), a topic that was discussed in the introduction.

This is not to say that emotions have been entirely neglected in past game design, or that designers did not aim to display, explore, or convey a wide array of emotions. A well-known example is a 1982 magazine recruitment ad by Electronic Arts (EA), entitled “Can a computer make you cry?”, placing software alongside other artistic media and branding the company as one producing art,⁷ the benchmark for emotional involvement. Despite this and similar efforts, however, the focus of most designers has been on emotions that are native to the medium, such as joy, triumph, competitiveness, and empowerment, and so recognition of games as a medium capable of conveying a broader emotional palette did not come to fruition for many years, resulting in games excelling in emotional design being relatively few and far between.⁸ Katherine Isbister addresses this trend, saying that “at this moment there’s a Renaissance taking place in games, in the breadth of genres and the range of emotional territory they cover” (Isbister 2016: xvii).

It is hard to pinpoint precisely when the “Renaissance” began, but as with most cases of media evolution and development, an aggregation of factors helped generate it. In the case of video games, major milestones were the rise of indie games⁹ which lowered the entry bar for game development and massively diversified the development scenes and themes in the mid-2000s, including the entrance of developers from new markets. This was coupled with and supported by more affordable and accessible technologies for creating games, alongside the maturity of developers and players, who became more inclined to create and experience more compelling and gripping games than ever before. These experiences were not limited to positive emotions, with some designers choosing to confront players with painful themes, moral dilemmas, frustration, and even guilt, pushing the emotional impact of video games to new heights.¹⁰

Research on emotions in video games

“a cybernetic feedback loop between human mind and machine” (Calleja 2011b: 135).

Alongside this industry shift came the scholarship to understand the emotional dynamics of playing video games. Isbister, one of these leading voices, dedicated much of her research to understanding the impact game design choices have on emotions and social connections, aiming at “getting better at building and evaluating technology that supports and enhances social and emotional experience” (Isbister official website: about). Throughout her research, Isbister explores the powerful role of games in creating empathy and other powerful positive emotional experiences (Isbister 2016: xvii). She demonstrates how different emotional qualities — including ones dealing with difficult themes such as grief, depression, or loneliness, as well as feelings of pride and affection — are revealed and realized in contemporary video games such as *PaRappa the Rapper* (NanaOn-Sha 1996), *Hush* (Antonisse and Johnson 2008), *Cart Life* (Hofmeier 2011), or *Journey* (Thatgamecompany 2012) (Isbister 2016, 2019). Isbister argues that one of the fundamental qualities setting video games apart from other media in terms of potential for emotional impact is players’ ability to make meaningful choices that offer them “the chance to influence outcomes through their own efforts” (Isbister 2016: 2). The emotional range found in video games is revealed by players’ active role in the play experience, as they are the ones making the choices that shape the game’s events and scenarios. In return, Isbister argues, each choice results in feedback from the game (world, characters, controls, etc.), allowing designers to “present players with interesting options that have emotionally resonant outcomes” (Isbister 2019: 136).

Echoing this thought is video game scholar Gordon Calleja, who argues that the absorbing nature of games can be attributed to their potential to affect players emotionally, mainly through the way “they place the player in a cybernetic feedback loop between human mind and machine”

(Calleja 2011b: 135). Calleja expands on the subject by presenting a model for understanding player involvement¹¹ in virtual game environments which considers games' specific qualities and characteristics. His model presents six dimensions of involvement, several relevant to this dissertation, yet for the current discussion of emotional engagement, I will mention only the affective involvement dimension, where "player's active input creates the potential for a more intense emotional experience, whether satisfying or frustrating, than nonergodic media provide" (ibid.).

The affective involvement dimension presented by Calleja encompasses various forms of emotional engagement. These, according to Calleja, range from "the calming sensation of happening upon an aesthetically soothing scene, the adrenaline rush of an online competitive first-person shooter, or the uncanny effect of an eerie episode in an action-horror game" (ibid.: 146). No matter which scene or scenario triggers the player's emotional response, the feedback loop between player action and participation and the way the game reacts is at the core of this engagement, stimulating "rhetorical strategies of affect that are either purposefully designed into a game or precipitated by the individual player's interpretation of in-game events and interactions with other players" (ibid.).

Another scholar addressing the importance of this feedback loop is Jane McGonigal. She presents a provocative argument concerning how video games fulfill genuine human needs that the real world cannot satisfy. While McGonigal tackles the concept of emotional engagement from a different perspective, one which can be transformed beyond games, she too claims that the feedback games offer and other attributes unique to the medium make us care more about real-life issues encountered in games (Barlev 2021: 3), resulting in our drive to tackle these real-life problems and eventually, to fix what is wrong with our reality using solutions acquired in virtual

game worlds (McGonigal 2011). While this approach might stand in contrast to the notion that “Many digital acts may be viewed as of little or no consequence given that most such acts have no impact on the ‘real world’ and thus, might be particularly easy to morally distance one’s self from” (Hartmann and Vorderer 2010 in Hemenover and Bowman 2018: 133 - 134), numerous studies back up the argument of importing emotions generated in games into our reality.¹²

What makes video games emotionally engaging?

“Games are created through the act of gameplay” (Consalvo 2009: 415).

At the heart of these arguments, and what makes the feedback loop between us and video games so intriguing, is our ability to shape it based on our choices and to witness it respond to us in interesting (and ideally meaningful) ways. As argued by media theorist Alexander Galloway, “video games are not just images: they are also complex circuits of action between a player and a computer program. Players do things to games, and in turn, games do things back to players” (Galloway 2006 in Golding 2019: 85). This, of course, is not exclusive to video games and is a prevalent feature in our interaction with technology. An automobile aficionado enjoys the thrill of an engine roaring when deciding to depress the gas pedal, no less than a gamer pushing down the acceleration button on the controller in a racing game, witnessing the car surging across the finish line. This notion is thoroughly discussed in *Emotions and Technology*; a book series on emotions and affective interactions with and through technology. According to Sharon Tettegah, even in its basic form (as in a simple tool used by humans and other animals for centuries), the most important aspect is “how we use and interact with it and the emotional responses we experience while we interact with it, either physically or psychologically” (Tettegah 2016: xiii).

When considering media, however, video games are unique in the degree of feedback offered to their users based on actions and choices, as well as the meanings generated by these choices. In their seminal book *Rules of Play*, scholars and game designers Katie Salen and Eric Zimmerman discuss in length what constitutes “meaningful play,” defining it as the goal of successful game design (Salen and Zimmerman 2014: 33). They identify two kinds of meaningful play, the first being the descriptive aspect discussing *how* to achieve meaningful play (the second will be discussed later in this chapter). This form, they argue, emerges from the relationship between player action and system outcome; “it is the process by which a player takes action within the designed system of a game and the system responds to the action” (ibid.). This descriptive form of meaningful play includes meanings emerging from acting within stories, and through play, as every game “lets players take actions, and assigns outcomes to those actions” (ibid.). In other words, the act of play can be understood as the meanings players form in response to the game’s (as a system) response to their actions.

However, the spectrum of play is so vast precisely because these meanings are based on active participation and (discernable) outcome. In his 2013 Game Developers Conference (GDC) talk, veteran game designer Warren Spector discussed the concept of “acting within stories” and the role of narrative in interactive entertainment, as well as the unique approaches appropriate to games compared with other audio-visual media. Spector made the argument that “we are the only medium in history that can respond to what players do” (Spector 2013: 23:30), and while such a statement might sound hyperbolic, it encapsulates one of the main differences between video games and other media: the visibility of the reception process.¹³

As argued by Kato and Bauer, the reception process takes place entirely in the reader’s mind in the case of text, which is not entirely different from the use of edited cuts and gaps in films

and TV. In games, however, the “reception process manifests itself in the experienced and visualized or tangible action of the game, which can be described as a permanent reaction by the player to the game setting and, vice versa, by the game system to the player’s inputs” (Kato and Bauer 2018: 219). Spector addresses the same difference, going as far as to suggest that the basic cinematic technique of cuts from certain scenes and events, while a great way to evoke specific emotions in films, should be unavailable for video games when the medium is at its best: “It breaks the illusion of immersion, which is critical I think to a game success, it rests away control from players who want to be the directors of their own experience” (Spector 2013: 09:55 – 10:14). In most games, he adds, the action is continuous and contiguous, meaning that designers can either take complete control of the camera or leave it to the player, resulting in an interesting paradox, one where movies become non-linear (due to cuts and edits), while games, on the other hand, are linear in the way they treat time and space (ibid.: 10:40).

While it may vary greatly between different types of games, this linearity asks players to become full participants in the unfolding events. In most video games (mainly single-player games), if players put down the controller, the game will not progress, as it relies on the player’s input.¹⁴ As noted by Mia Consalvo, “Games are created through the act of gameplay, which is contingent on acts by players” (Consalvo 2009: 415). Compared with other media, this participation requires increased cognitive attention¹⁵ and, more notably, physical engagement in the form of players’ input. Concerning our discussion on emotional engagement, the level of participation has the capacity to confront players with meaningful decisions based on themes of morality, ethics, and justice, to a degree where these decisions may transcend the medium’s emotional barriers.¹⁶

In other media, users are usually liberated from such demands presented by the platform, as the events will play out regardless of participation. As noted by content creator Isla Hinck, “No

matter how much you scream at your television, the story won't change. No matter how hard you turn the pages in a book, the words will not shake off and fall to the floor" (Hinck 2020). This does not mean that viewers or readers simply watch or read their respective media without the ability to make decisions throughout the experience. In his discussion on choice architecture, Raph Koster considers how, when watching a film, viewers have more choices than simply watching from beginning to end: "they can get up and leave, they can throw popcorn at the person in front of them, they can shout "fire!" in the theater" (Koster 2013b). While these are all always-present, available choices for the film audience, Koster considers them un-architected choices, essentially "forms of breaking the contract between the viewer and the filmmakers" (ibid.). In other words, while a writer or a filmmaker must deal with time and space, a game designer must deal with time, space, and rule-based possibilities.

In contrast, while the impossibility of making decisions that impact the outcome in media such as texts or films¹⁷ can be regarded as a disadvantage, Kato and Bauer argue that in some instances, it can be seen as an advantage since readers/viewers cannot advance or prevent anything; "they experience the rules of these fictional worlds at close range, but at the same time they are not subject to any (moral) responsibility" (Kato and Bauer 2018: 234). Naturally, viewers or readers can feel guilt when, for example, rooting for a protagonist who performs actions that violate moral values or social norms.¹⁸ While meaningful, this guilt is evoked by observation, rather than participation, as the events play out regardless of their actions. In other words, it lacks responsibility. Players, on the other hand, can be held accountable for any decision *they* make and the outcome of *their* choices. As described by Hinck:

One of the best parts of video games is feeling like you did the work and that you had an impact on the outcome, even if this is somewhat of an illusion sometimes. If

you feel the guilt of the character or if you feel in any way responsible for what happens, this is effective storytelling in a game, and this is not as common in other forms of media (Hinck 2020).

However, Hinck's point regarding the illusion of the impact players have on game worlds is central to our understanding of our relationship with the medium and the virtual characters inhabiting these worlds. Hence, we should first evaluate the power players have (or imagine having) in games, how it is formed, and for what purpose. As will be discussed extensively throughout this chapter, it is an ongoing debate that can either challenge or empower the meanings players draw from the feedback loop offered by video games.

With great power (comes great responsibility?)

"The game is a dialogue between game and player" (Anthropy and Clark 2014: 15).

Choices and decision-making are at the core of the interactive nature of video games, as every action equals choice. Since players have the power to choose, they also bear the responsibility for the consequences of their decisions. As argued by Kato and Bauer, games are "decision machines designed to create challenges for players and give them options" (Kato and Bauer 2018: 220), to wait for player's inputs (decision), and to "respond with preprogrammed reactions of reward or punishment (consequences)" (ibid.). We see the effects of video games' feedback loop once more, as players' emotions during gameplay affect the choices they make, and in turn, the way those choices unfold affects players' emotions. A decision in games, according to Kato and Bauer, "is therefore any kind of reaction to the game, as every input requires a prior decision" (ibid.).

Anthropy and Clark echo this observation, saying that "The game is a dialogue between game and player" (Anthropy and Clark 2014: 15). The player communicates by making rule-based

choices, and the game responds by presenting a pre-designed outcome. This dialogue can be as simple as a player pressing the jump button, followed by the player-character jumping, a robust customization system that allows players to choose the visual representation of characters and weapons,¹⁹ or a complex morality system where player's decisions end up shaping the fate of the game world and its inhabitants.²⁰

With so many possibilities presented to players, it is no surprise that many studies on video games and game design textbooks stress the role of choices as one of the medium's key features. Many will open the discussion on choice with an almost apocryphal saying associated with legendary game designer Sid Meier, that a game (or a good game, depending on the source) is a "series of interesting choices."²¹ Sid Meier himself commented on this topic, recalling a talk he gave at GDC in 1989, where "without thinking much about it," he said that "A game is a series of interesting decisions" (Meier 2012: 0:52). With a slight variation, this quote became a focal point of the discussion on video games' unique form of interactivity and the emotionally invested participation that differentiates them from other media. As argued by Zack Hiwiler in his book *Players Making Decisions*, "For a game to be interactive, it must let players make at least one decision; otherwise, it's just a theme park ride" (Hiwiler 2016: 84). He goes on to add that for a decision to have importance, "it must be meaningful" (ibid.).

The question of meaningful decisions (or meaningful play as discussed by Salen and Zimmerman) in games and the emotions they evoke is fascinating, especially when considering how much impact players actually have on the outcome. This topic is a point of contention in both scholarly studies and game design and exposes a few controversial questions: Do these choices matter? And who makes them, the player, or the game designer?

Behind the (systems') curtain

“The choice doesn't matter if the outcome is the same” (*Antichamber*, Demruth 2013).

The puzzle game *Antichamber* (Demruth 2013) addresses these questions, greeting players on its opening screen with a sign that reads: “Every journey is a series of choices. The first is to begin the journey.” If players choose to embark on this journey and play the game, they will soon be presented with another choice: should they go right towards the ascending blue staircase or left towards the descending red staircase? There is no indication of which path might lead players forward, only the simple choice of going left or right.

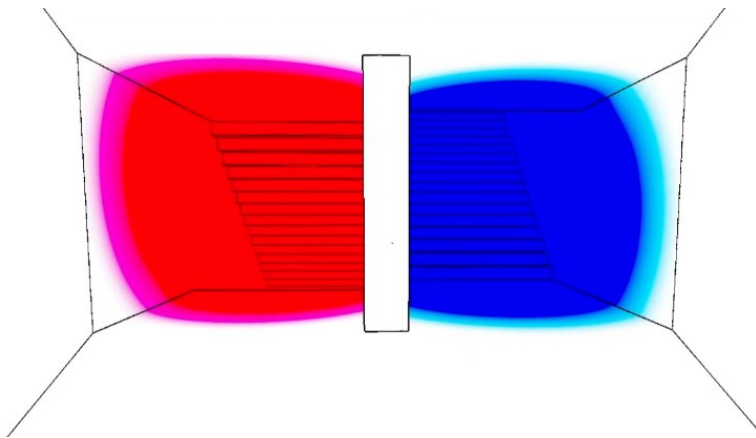


Figure 1: Right or left?

Antichamber (Demruth 2013).

This choice, however, does not matter, since whether players go left or right, they will always end up at the same place. Another sign appears, stating that “a choice may be as simple as going left or going right,” leading players to try again, only to be facing the same fork. This time, however, there is a new sign on the wall: “The choice doesn't matter if the outcome is the same.” Players can run endlessly in a circle of meaningless choices, but it is only when they reject this false dichotomy and choose not to abide by the choice presented to them, that they can find the solution and progress in the game.

Antichamber is far from being the only game providing commentary on the question of choices in games and its purported emotional impact on players. Since video games are designed and played with the constant tension between freedom and the illusion of free choice, scholars and designers draw an explicit distinction between choices made for players or by players, subversion versus submission, and the degrees of freedom offered in games.

According to Salen and Zimmerman, playing a game means “making choices and taking actions. All of this activity occurs within a game-system designed to support meaningful kinds of choice-making” (Salen and Zimmerman 2014: 33). However, in their essay ‘The Player as Puppet,’ Kato and Bauer ask how influential and consequential (and as a result meaningful) are, in fact, the decisions players make in games, and examine if their role truly exceeds the position of powerless spectators. They argue that decisions players make belong to the structural components of a computer game, “and as such, they ought to be perceived very clearly as a designed system” (Kato and Bauer 2018: 217). The system, they add, presents itself as free from confining the player as a powerless spectator, but this might be a delusion, “as every possible outcome has been mapped out in a computer game, and the predefined mechanics only appear to give the player free choice from a varied range of options” (ibid. 218).

This critique on video games is not uncommon, and while many games boast about both the freedom players have and the impact of choices those players make on the game’s world,²² designers often point to the limitations enforced by the system. Game designer Jim Brown from Epic Games makes this point blatantly clear in his 2016 GDC talk, titled ‘The illusion of choice,’ saying that “when someone sits down to play a video game they are very much at our mercy. They are constrained by our rules, they’re locked into the path of the world that we build and they’re limited by the controls that we set up for them” (J. Brown 2016: 0:40 – 0:55).

This is true for every type of video game, going beyond the familiar scapegoat of game critics, namely, games that tell their story mostly by relying on pre-rendered clips in the form of cut scenes, locking certain narrative events and bringing games closer to texts and films. Cut scenes, as argued by Egenfeldt-Nielsen et al., “shape the narrative in a certain direction. They function to ensure that the game protagonist makes certain choices. The player is stripped of his or her influence and the narrative is moved along” (Egenfeldt-Nielsen et al. 2016: 207), echoing Spector’s sentiment on the medium’s overreliance on cuts and edits. Rollings and Morris use examples of both linear choices and lengthy cut scenes to criticize what they call “the worst kinds of games.” In such games, they argue, “it’s obvious that the designer thought he was writing a film or a novel. It’s the frustrated-author syndrome, and you know you’re bearing the brunt of it when your choices in the game have shrunk to one linear path, or when you find yourself scrolling through neverending cut scene dialogues waiting to get to the action” (Rollings and Morris 2004: 13).

However, even in what appears to be one of the most liberating game genres, open-world games, players are not truly “free” to do anything and go anywhere, a standard “back-of-the-box” feature, since every possible outcome is preprogrammed. As Brown explains, “No matter how open or how linear a level actually is, the player is always on a path from A to B. That’s basic game theory. I give you a starting point and a goal, and you move along that path to that goal” (J. Brown 2016: 12:05 – 12:15). As one such example, Kato and Bauer discuss how the open-world game series *Grand Theft Auto* (Rockstar Games), while advertised as giving players open-ended possibilities, is simply an illusion, “as everything is in fact predefined” (Kato and Bauer 2018: 221), echoed by Brown who adds that “even with an open sandbox, the player choices still have to happen within the constraints of the game’s rules and systems” (J. Brown 2016: 15:15 – 15:22). These limitations recall the tension between game and play, especially regarding the spectrum of

interpretation available to players when engaging with a game. In that sense, as convincingly argued by Steven Conway, a “game as a thing could not care less” about the act of play (Conway 2019: 16), simply because “the essence of a game is rules, and rules are (as a rule) always more concerned with adherence and procedure than with interpretation and style” (ibid.).

Rules, restrictions, and the ‘magic circle’

“a game is its rules” (Schell 2015: 189).

As we have seen then, video games, at their core, are rule-based systems, a common understanding shared by both Game Studies scholars and game designers. Schell makes it clear by saying that a game is not just defined by its rules, “a game is its rules” (Schell 2015: 189). Bauer elaborates, discussing how in almost all areas, “electronic games need to simulate a game world using rules” (Bauer 2018: 42), including the simulation of time, mechanics, space, movement, and physics (ibid.). In addition, Kato and Bauer discuss how games as systems set the rules of other attributes such as “challenges, options, a choice of actions and valuated consequences, and they invite players to create, as a concrete actualization of these rules, a decision tree – which is nothing less than the prefabricated result of numerous, long game design decisions” (Kato and Bauer 2018: 237).

This statement regarding the predefined results of players’ branching decisions is an important aspect of a larger discussion on the limitations versus the freedom these systems present. While it is a discussion worth having for the medium to evolve (as will be discussed later in this chapter), it begins with the acknowledgment that when players choose to participate in a game, they consent to abide by its system’s rules and subsequently be mediated by them. As discussed by Payne and Huntemann, “Analog and digital games are often powerful experiences *precisely*

because we willingly subject ourselves to rules and to situations not of our choosing” (Payne and Huntemann 2019: 8).

This is the very essence of the ‘magic circle,’ a concept introduced by Dutch Anthropologist Johann Huizinga in 1938, meant to define the border between play and non-play, game world and reality. In his groundbreaking study of the play element in culture, *Homo Ludens*, Huizinga stressed the importance of play in human activity, imagining the magic circle as a special place created when playing begins. It is set apart from the outside world, and while inside it, different and unique rules apply, meaning that what happens within the magic circle is interpreted playfully and has no direct effect on the everyday world (Stenros 2012: 2). Video game scholars have adopted this distinction to help explain the role games play in our lives, becoming an often cited and hotly debated term in Game Studies.²³

I have already mentioned how emotional experiences in games can shatter the barriers of the medium and extend into other spheres of life,²⁴ challenging the perception of the magic circle as an enclosed system that does not affect what lies beyond it.²⁵ However, as a metaphor that defines the rules of a game, the magic circle is a valuable concept, specifically concerning our discussion on choices. Salen and Zimmerman, who identified and translated the concept of the magic circle into the field of Game Studies, argue that within the boundaries of the magic circle, “the rules of the game play out and have authority” (Salen and Zimmerman 2004: 96). When players take part in a game, they add, “they voluntarily submit to it and limit their behaviors to the specific restrictions imposed by the game rules. Once play begins, players are enclosed within the artificial context of a game — its magic circle — and must adhere to the rules in order to participate” (ibid.: 123).

This does not apply only to digital games, of course, but to all forms of gaming. Bauer argues that a game is established when the participants accept its rules and process them (Bauer 2018: 36), which can be applied to anything from board games to street games or electronic games (ibid.). This is echoed by Salen and Zimmerman, that mention how the play of a game “only occurs as players experience the rules of the game in motion” (Salen and Zimmerman 2004: 302). Since rules are meant to be followed, they add, part of the “magic” of the magic circle is that the rules contain their own authority: “The reason why the rules of a game can remain fixed and shared is because they are ultimately binding” (ibid.:123). This observation raises several questions regarding players’ freedom and autonomy, as will be discussed next.

Can a system really allow dialogue?

“A man chooses. A slave obeys” (Andrew Ryan, *BioShock*, 2K Games 2007)

The quote above is taken from the critically acclaimed First-Person Shooter (FPS) game *BioShock* (2K Games 2007), a statement/question presented to players at a critical moment in the game when they realize they were manipulated to perform specific actions throughout the entire game. It is perhaps one of the most famous quotes in all video games precisely because it brilliantly captures the doubts players feel while making choices in the underwater city of Rapture, where the game takes place. *BioShock* is a game driven by moral choices, and as it becomes clear players were manipulated by the antagonist all along to think as if they made decisions freely, they are forced to acknowledge the futility of their actions and accept the fact they are stripped of autonomy and free will.

Naturally, constraining and authoritative rules do not marry well with choices, especially those associated with freedom and ones which are supposedly liberated from systematic procedures

and predefined outcomes, as many game developers promise their players. Are games a dialogue between a game and a player as presented earlier? In her article ‘The Tyranny of Choice,’ writer and narrative designer Aevee Bee (quoted here as Andrew Vanden Bossche) argues that “A system is not a dialogue” (Vanden Bossche 2013). Systems, she claims, are statements, and as such they inherently restrict player choices. Even a game that presents players with a moral choice, a good versus evil morality system which “appears to be a dialogue between two points of view, is actually a statement that the world is a morally definite one” (ibid.). As noted by Bee, “Your systems can never be infinite, so what makes it into your system can only be what you, the author and designer bring. Your system will be as flawed and human as you are” (ibid.). She adds that systems prevent dialogue by their very nature of being designed, and so are the rules by which they operate and communicate their message.

Indeed, video games are rule-based, designed systems, and it is this attribute of the medium that gives the software (game) the power over the output (result), and therefore, “games are able to control the semiosis process or the output of that process” (Bauer 2018: 44). This, of course, implies that the system is in control of meanings emerging from choices, and if meanings evoke emotions, then it is the system architect who designs the emotional experience. Game designers, however, aim to disguise their grip on players. While addressing the limitations imposed on players, such as being constrained by rules or locked to a predefined path, Brown admits that a designer’s goal is for players to never actually feel that they are at the mercy of the designer: “If we’re doing our jobs well, then the player will always feel like they’re the one actually in control. We want to give them the illusion of choice so that they can continue to have a great time” (J. Brown 2016: 0:58 – 1:12).

Schell presents a similar revealing question: “How can I bridge the gap between the emotions players are having and the emotions I’d like them to have?” (Schell 2015:19). In the best

case, according to Kato and Bauer, “players do not even notice any more that they only seem to be free, when in fact they act as slaves to the system” (Kato and Bauer 2018: 222). This manipulation, according to Bee, is another feature preventing games from becoming a dialogue. Since the rules of this made-believe dialogue were written by the designer, Bee asks “How can I possibly have a dialogue if I don’t agree with those rules in the first place?” (Vanden Bossche).

However, as established by the boundaries of the magic circle, players do agree to (or at least accept) the rules of a game the moment they transport into the realm of play and decide to participate.²⁶ If we strip the system of its rules (which is, by itself, a paradox), is it still a game? The answer to this, according to Salen and Zimmerman, is no. While they acknowledge that fixed and authoritative rules make games “seem a bit constraining,” they clarify that “A completely open-ended game, where rules are constantly invented... is probably not a game by our definition” (Salen and Zimmerman 2004: 123). Schell, in addressing the boundaries (both virtual and conceptual) of a game, is in support of this notion: “Many games are primarily about boundaries! Certainly, any game about territory is an exploration of boundaries. But rules are another kind of boundary, and a game with no rules is no game at all” (Schell 2015: 402). Rules, Consalvo adds, “keep a game distinct from other games as well as other parts of life. Paradoxically perhaps, it is the rules that make a game fun and entice an individual to play” (Consalvo 2007: 7), echoed by Juul who acknowledges how paradoxical game rules are, stating that “although rules and enjoyment may sound like quite different things” (Juul 2005: 55), rules are, in fact “the most consistent source of player enjoyment in games” (ibid.).

We can clearly see why rules are crucial in forming a system-based, digital game. However, if the thesis of video games’ emotional impact relies on a feedback loop (partly in the form of our ability to shape the worlds we inhabit as players based on our choices), then we must address the

limitations presented by the very systems that enable these choices in the first place. More precisely, we need to evaluate if they impede, or perhaps empower, the emotional experience of playing video games. In other words, it is necessary to address the question “why players fall so deeply under the spell of this illusion?” (Kato and Bauer 2018: 222), or from the design perspective (which is more relevant to this dissertation), the question presented by Schell: “How can games, which are nothing more than sets of rules, have this magical effect on us?” (Schell 2015: 45).

Changing the system’s mind

“games are the only medium you can argue with – and maybe change the game’s mind” (Koster 2013a).

In the first book of Ursula K. Le Guin ‘Earthsea saga,’ *A Wizard of Earthsea*, the young wizard Ged asks the Master Changer to teach him how to lock a changing spell, how to make the illusion of transforming a pebble into a diamond permanent. After much consideration and a few valuable lessons, the wise Master Changer advises Ged to simply appreciate rocks for what they are: “A rock is a good thing, too, you know,” he said, speaking less gravely. “If the Isles of Earthsea were all made of diamond, we’d lead a hard life here. Enjoy illusions, lad, and let the rocks be rocks” (Le Guin 1968: 54).

I am aware of the peculiarity of this analogy, yet video games are, in essence, not much different than rocks disguised as diamonds. They are an elaborate and intricate illusion;²⁷ they are (composed of) rules and systems masterfully disguised in the form of play. Conway conveys this notion elegantly, saying, “Simply, to play is to pledge oneself to an illusion. Indeed, one should commit so fully that one does not even see it as illusion” (Conway 2019: 15). This does not negate games’ ability to be engaging and compelling, deeply emotional experiences. Play as a rule-based

activity, however, might not capture these qualities, as it is too often simplified and associated with being entirely separable from everyday life, consequence-free (or nonproductive), and merely pleasurable. As discussed by Malaby, “Games have a long-running, deep, and habitual association with “play,” itself a shallowly examined term, historically and culturally specific to Western modernity” (Malaby 2007: 96). He goes on to suggest that “play itself may be more usefully treated not as a form of activity but as a mode of experience” (ibid.).

As previously discussed, the experience of playing a video game is without a doubt shaped by the predefined and designed rules and limited within the boundaries of the system, but as will be demonstrated later in this chapter, it is within these limitations that meanings become apparent and where emotional experiences emerge. Koster argues that despite the system’s limitations, there is always room for maneuver, ending up empowering players. Going back to the example he presented earlier on the unwritten “contract” between the viewer and the filmmaker (where essentially, the system “expects” the viewer to simply watch the film), Koster argues that “Really, what you are “supposed” to do is sit back and absorb. There’s plenty of room for interpretation here, of course, but on a *semantic* level, not a *systemic* level. The systemic level does not admit of choices” (Koster 2013b).

Video games, on the other hand, are elaborate systematic artifacts, which according to Koster, not only allow for dialogue but encourage it due to their complexity. He agrees with Bee’s criticism that systems are always statements, but argues that things like emergence, user-generated content, and even our universe are all systems, systems that are “rich enough to allow for what I would personally term dialogue within a system – even if those systems are limited in ways that convey a message” (ibid.). As a game designer, Koster is basing this argument on the experience of creating emergent systems in online worlds, where he continually found himself surprised by

the ways players respond *to* and *with* the system in ways he did not foresee. “In effect,” he adds, “they (players) expanded the boundaries of the system themselves” (ibid.). To clarify, Koster claims that “games are the only medium you can argue with – and maybe change the game’s mind” (Koster 2013a).

These types of negotiations, unique to video games, allow us to reconfigure systems within the magic circle in creative and innovative ways and create dynamic meanings that are collaborative between designer and player. For example, emergence is the phenomenon of things arising from a system or changing the rules we play by. We can see this in many forms of gaming: user-generated content and modding, which is players’ ability to alter a game and structure it differently, self-applied challenges such as speed-running through a game in the shortest time possible (in essence, players making their own rules within the system), or role-play according to the game’s fiction (for example walking the player-character slowly and dramatically to enhance tension before a boss-fight, or letting the player-character rest or sleep before saving and stopping a play-session, even if a saving function is available anywhere in the game). Hence, a game is not simply what the designer encodes but also the active play and interpretation that players bring. Players not only choose different playstyles when playing a video game but interpret play differently altogether.

This interpretation can also happen off-game in game guides such as walkthrough streams or websites.²⁸ Consalvo presents an interesting example of such negotiation, discussing how players can acknowledge certain soft rules in defining for themselves how far they venture outside the boundaries of the magic circle for help. She argues that this is not considered a breaking of the rules (unlike cracking or hacking the game’s codes to gain an unfair advantage against other players) but a “more complex negotiation of cultural systems of support in gaming culture”

(Consalvo 2007: 89). As a result, Consalvo asks, “How far will players move into that support system? At some point, players must make individual decisions about what they will and won’t read, who to ask and for how much information, and so on, in playing a game” (ibid.).

Such creative negotiations with and within the system (or sometimes at its border), while providing players with interesting methods to interpret the game’s rules, might strengthen the argument that games are limited in their capacity to impact players in meaningful ways, especially if the choices they offer players are meaningless, so much so that players have to manipulate the system to create meanings that the game itself fails to provide. Hence, as will be discussed next, we should examine the intrinsic value found in systems and limitations beyond serving as the digital manifestation of video games’ building blocks.

The boundaries of meanings (and the meanings of boundaries)

“a well-designed system of play” (Salen and Zimmerman 2014: 33).

In his excellent article discussing the future of our relationships with virtual characters,²⁹ Keith Stuart addresses the unique nature of systems in games that separate the medium from other technology, rule-based systems. “Unlike operating systems,” Stuart argues, “which are the practical interface between us and the computer, video games provide a playful environment in which we’re invited to identify with the onscreen avatars and events. Just as literature has done for hundreds of years, games invite us to identify with characters, they function to make us feel” (Stuart 2014). Naturally, these interactions are limited, as we do not “exist” within these playful environments, within the game world, and we must operate in them according to context and rules.

This, however, is not much different from many other aspects of our lives, and we never question our ability to form meanings in our reality. As argued by Egenfeldt-Nielsen et al., “Games

are special contexts where particular rules apply, but we can apply this definition to a wide array of utterly different activities: work, family life, university classes, weddings, the nightlife of a big city” (Egenfeldt-Nielsen et al. 2016: 34). They go on to discuss how these situations are governed by special rules and norms “that do not always — indeed, could not always — apply in other contexts. Games, then, are not entirely different from the remainder of our lives, and should not necessarily be treated as an aberration” (ibid.). Bauer shares a similar sentiment, stating that “digital games become a new kind of environment for the players, to which they hook up, become a part of and actively socialize in (as long as they abide by the rules). This is not much different from the socialization process in real-world society” (Bauer 2018: 44). When discussing “socializing” outside the context of online communities, as well as players’ ability to interact with the game world and make decisions, video games use sets of rules designed for interactions between players and NPCs as well as players and interface (such as in decision making) in the form of game mechanics. As argued by Bauer, “Those rules are the basis for all the excitement and frustration we experience in games” (ibid.: 9).

There is, indeed, a fine line between frustrating or exciting players with too many constraints versus too much freedom (much like in real life?), raising the question of the systematic limitations designers choose to inflict on players versus their ability to impact the system. In his book, Hiwiller opens the chapter on meaningful decisions with the question: “Have you ever played a game and felt that instead of you playing the game, the game was playing you?” (Hiwiller 2016: 84). The answer to this, is of course, yes. Nevertheless, that does not mean that the medium is flawed, only that some game systems are more restrictive (and, as a result, predictable) than others, limiting the meanings players can form. As discussed by Salen and Zimmerman, some games create more meaningful play than others: “the design of some games generates truly meaningful

experiences for players, whereas other, less successful game designs result in experiences that somehow fall short” (Salen and Zimmerman 2014: 33).

To understand the features of such designs, we should consider the second form of meaningful play proposed by Salen and Zimmerman, which focuses not on *how* meaningful play is formed but on *when*. Salen and Zimmerman consider this sense of meaningful play as evaluative, as it allows to “critically evaluate the relationships between actions and outcomes and decide whether they are meaningful enough within the designed system of the game” (ibid.: 34). Hence, meaningful play occurs when “the relationships between actions and outcomes in a game are both *discernable* and *integrated* into the larger context of the game” (ibid.). By discernable, Salen and Zimmerman mean that the result of players’ actions is communicated in a perceivable way (an action’s outcome clearly represented), while integrated means that such actions not only have immediate significance in the game but also affect the play experience in the long term (the relationship between action and outcome is integrated into the larger context of the game) (ibid.). This aspect of meaningful play is especially valuable in our discussion on emotions since by “meaningful,” Salen and Zimmerman refer less to the “semiotic construction of meaning (how meaning is made)” and instead to the “emotional and psychological experience of inhabiting a well-designed system of play” (ibid.).

Whichever sense of meaningful play is being discussed, the term a “well-designed system of play,” by its very nature, clearly does not suggest that game designers have to surrender control altogether or provide a plethora of choices to generate “truly meaningful experiences,” as meanings do not necessarily emerge from freedom. Such systems and their imposed limitations have other merits. When considering the aspect of grafting meanings of reality to games, Kato and Bauer point to the advantages of limitations that liberate players from making complex and challenging

decisions (much like the arguments made regarding other media). Such decisions, which are part of our analog life, are characterized by moral, social, and economic considerations that, according to Kato and Bauer, “can make us feel uncertain, as we are not always sure how the rules of the system work and what kind of a decision we are actually making” (Kato and Bauer 2018: 232). Decisions in real life have unexpected consequences, while games, on the other hand, try to eliminate such uncertainties and make decisions easier. According to Kato and Bauer, “as decision machines, they (games) provide a designed logic of consequences and are therefore simpler in their make-up” (ibid.).

Salen and Zimmerman also discuss the value of games’ “lucidity and intelligibility,” which stand in contrast to the ambiguities and partially known information of real life: “that is one of the reasons why games as designed systems are artificial and distinct from daily existence. In ordinary life it is rare to inhabit a context with such a high degree of artificial clarity” (Salen and Zimmerman 2004: 123). The way game designers eliminate such ambiguities is by limiting the choices players can make, while maintaining the “illusion of choice.” According to Brown, choice is essential, but only to a certain point, as too many actual choices can be overwhelming and break players’ flow state,³⁰ which makes the game less fun or interesting in their eyes (J. Brown 2016: 2:40 – 3:20). This idea is not limited to video games, and is known as “the paradox of choice,” a term coined by psychologist Barry Schwartz, showing not only that having more choices does not necessarily lead to more satisfaction and happiness, but can in-fact be overwhelming and cause anxiety.³¹ Brown adds that some games purposely present players with the paradox of choice to evoke an overwhelming emotional state, and the reason it works is that “it’s all an illusion” (ibid.: 4:05). According to Brown, within this illusion the elements of the game unfold logically, as new environments and controls are seamlessly introduced, meaning that the actual game elements

themselves never break player's flow state (ibid.: 4:10 – 4:25). To maintain this illusion, however, there must be unpredictable elements.

The power of the unknown

“a mix of predictable and unpredictable outcomes” (Malaby 2007: 106).

These observations on the merits of limiting players' choices do not mean that scholars and game designers do not acknowledge the crucial role uncertainties play in creating meanings and emotionally impacting players in games. As discussed throughout this chapter, video games do much more than present players with binary, predictable, consequence-free decisions. Hence, we need to explore lower degrees of such limitations, ones that do, in fact, challenge players with complex themes and unknown outcomes, as for any game to be captivating, engaging, and ultimately emotionally impactful, it must provide players with possibilities and confront them with uncertainties.

This is the essence of Malaby's definition of what video games are: “a semibounded and socially legitimate domain of contrived contingency that generates interpretable outcomes” (Malaby 2007: 96). Rules of a game, according to Malaby, are not the same as the “rules of a bureaucracy, which are intended to reduce unpredictability across cases and produce regular, consistent outcomes” (ibid.: 105). Malaby presents an argument (initially made by Dibbell) similar to that of Stuart presented earlier on the nature of most software code (rules) in computer programs compared to video games. Dibbell drew a curious parallel between online games and an income tax program. While both make use of code and internet connectivity, he argues that the income tax program (much like an operating system) is “not designed to generate unpredictable outcomes. On the contrary, variations in its estimates of owed tax from one try to the next are an indication that

something has gone quite wrong” (Dibbell 2006: 109 in *ibid.*). Malaby adds that games, on the other hand, are quite importantly about the opposite: “They are about contriving and calibrating multiple contingencies to produce a mix of predictable and unpredictable outcomes (which are then interpreted)” (*ibid.*: 105 – 106).

Both Kato and Bauer as well as Salen and Zimmerman, despite the precautions presented earlier on the need to separate “real life” decisions from game decisions, discuss the attempts made to “introduce reality in the form of moral aspects by means of settings or sets of rules” (Kato and Bauer 2018: 233) and the importance of life-like uncertainties in creating a compelling gaming experience. Kato and Bauer discuss this at length, stating that the reasons for such attempts range from “an increase of attention that comes with the transgression of boundaries, to the possibility of raising the value of the decisions” (*ibid.*). The introduction of questions of morality, they argue, automatically means that decisions are magnified and is also a way of “expanding the game design, both in terms of the setting (which themes may be addressed?) and in terms of rules (what is permissible in a game?)” (*ibid.*). According to Kato and Bauer, while these types of “magnified,” morality-based questions do not necessarily mean that the decisions become more meaningful, they certainly have more real-life quality, including confronting players with moments of uncertainty. Such moments, they add, are then amplified “by the question in which sphere the respective system of moral values is actually valid: does the decision apply to the game, or reality?” (*ibid.*).

Salen and Zimmerman, however, clearly link uncertainties (inevitably a subset of morality-based decisions) with meaningful play. Video games, they argue, need uncertainty since if an outcome of a game is predetermined, then any choice a player makes is meaningless, as it does not impact the way that the game plays out (violating the integrated relationship of actions and outcomes). As a result, the experience cannot provide meaningful play, which “arises from

meaningful choices. If a player's choices have no meaning in the game, there really is no reason to play" (Salen and Zimmerman 2004: 174). Uncertainty, they add, is usually thought of as "something that disempowers players by removing a sense of choice and agency, yet paradoxically, it is the uncertain outcome of a game that allows players to feel like their decisions have an impact on the game" (ibid.). Ultimately, the reciprocal symbiosis of decision – outcome generates what Salen and Zimmerman consider to be a crucial part of meaningful play.

As previously presented, interpreting this intrinsic connection between uncertainties and meanings is at the heart of Malaby's understanding of video games, which he addresses in the form of contingency. Malaby not only considers contingency as what makes games compelling but argues that "the wide-ranging unpredictability of our everyday experience and the contrived unpredictability of games point toward a bridge, rather than a gap, between games and other aspects of our lives" (Malaby 2007: 107). For Malaby, games have a "fundamental quality of multilayered contingency that allows them both to mimic and constitute everyday experience" (ibid.). However, he adds that they should present just the right mix of the expected and the unexpected to be inherently compelling, meaning that the experience must be, as mentioned earlier, well-designed (ibid.). Game designers, Malaby adds, are "notable in their practiced ability to calibrate these sources of contingency to engage the participant and make the experience compelling" (ibid.).

Game designer Alexis Kennedy addresses the abilities of game designers to calibrate these experiences not necessarily by creating a dichotomy-based choice architecture of open versus closed choices and outcomes but by focusing on the possibilities that lie in between. In his 2016 GDC talk, Kennedy discusses the importance of complicity, the stage between choice (the experience of making a decision) and consequence (what happens later): "A complicity coincidently is what happens in between, it's the emotional experience you have as you're making

a choice. All of these are places where you can insert emotions into your player and that's ultimately what you want to do" (Kennedy 2016: 2:14 – 2:32).

This brings to mind Salen and Zimmerman's understating of meaningful play as earlier discussed, where the "meaning of an action in a game resides in the relationship between action and outcome" (Salen and Zimmerman 2014: 33). Presenting questions of morality amplifies the complicity stage, mainly because such decisions are clearly connected to real human experiences by their design. However, as argued by Kato and Bauer, such a strong focus on the moment of decision presents a "particular challenge for games to not make the player look like a puppet" (Kato and Bauer 2018: 218), leading to the question of if, and in what way, "the specific moment of decision is charged with strategies of emotionalization" (ibid.).

These strategies can include players' rapport with another character (which they wish to maintain), sunk/cost considerations (players follow a route they already invested resources in), or risk versus reward in the form of the consequences of their decisions. Malaby sees the game design process similarly, emphasizing these emotional moments, stating that making a game "is about creating the complex, implicit, contingent conditions wherein the texture of engaged human experience can happen" (Malaby 2007: 107). Interestingly, when introducing questions of morality as part of these experiences, Kato and Bauer argue that the connection to reality and the fact that players are held accountable for the choices they make in games result in experiencing a loss of freedom (ibid.: 234).

This observation requires a better understanding of the role freedom plays in video games. We must ask, then, whether a meaningful experience of playing games (whether detached from or bound to reality) emerges from the freedom to do (or to choose) anything within game worlds? or is it about impacting these worlds (with our actions and choices) in meaningful ways? In addition,

since we have established that freedom in its complete form is unachievable within systems, does it mean that our capacity to have a meaningful experience, or even the simple experience of pleasure, is limited as well?

Free to play

“There is no life I know

To compare with pure imagination

Living there, you’ll be free

If you truly wish to be”

(Pure Imagination, from Willy Wonka & the Chocolate Factory, Stuart 1971).

Jean Baudrillard describes how all forms of gaming offer fantastic attraction in sites of supernatural freedom. He uses gambling as an example, describing it as a “refuge” for the middle and working classes (not unlike how video games are regarded as “escapism” for gamers). This takes place in what Baudrillard refers to as the site of luck, liberated from social class, “the only non-place where good and bad are not distributed in the same way” (Baudrillard 2001: 87). Much like the magic circle (once more with very real implications on reality), it is a site of supernatural freedom that “bears no relation to ‘natural’ freedom, and has about it more an immediate collusion with the world. Now, the whole pleasure comes from this” (ibid.).

I do not suggest that engaging with video games resembles gambling (although some games unapologetically implement luck-based features which are not entirely different), yet the idea of pleasure by constraints rather than by freedom can indeed be applied and is a key feature in our understanding of a meaningful experience within existing limitations. Baudrillard adds:

Gaming does not liberate us from constraints (since we accept the far stricter constraint of the rules), but it delivers us from freedom. We lose freedom if we live it merely as reality. The miracle of gaming is to make us live our freedom not as a reality but as illusion – a higher illusion, an aristocratic challenge to reality (Baudrillard 2001: 88).

Baudrillard's observation on the matter encapsulates many of the arguments presented in this chapter, yet it does leave us with the question, what exactly is the illusion of freedom, and how can we apply it in the context of video games? A *feeling* of freedom, according to Schell, is one of the things that separates games (or interactive experiences) from other forms of entertainment. Freedom gives the player the “wonderful feeling of control and makes it easy for them to project their imaginations into the world you have created” (Schell 2015: 343). In video games, a sense of freedom arises from the conflict between the story (what players should do) and the unique aspect of gameplay (what players can do). This conflict forces game designers to consider in which moments players have freedom of action versus when they are constrained, asking if there are places where players can be granted more freedom, or if too much freedom (much like too many choices) might cause players to feel overwhelmed (ibid.). Schell presents an interesting question, “when we give them (players) those wonderful feelings of interactivity and control, we have to give them freedom, right?” (ibid.), followed by an even more revealing answer: “Wrong. We don't always have to give the player true freedom — we only have to give the player the *feeling* of freedom” (ibid.).

This feeling of freedom is a critical concept in our discussion on the emotional experience of playing video games, especially considering the apparent limitations of interacting with preprogrammed virtual characters. One productive way to explain how game designers can create

this feeling is by understanding the difference between player freedom and player autonomy. This is the topic of Scott Rigby's 2017 GDC talk titled 'The Freedom Fallacy: Understanding Player Autonomy in Game Design,' which proves to be an extremely valuable source in this discussion.

Rigby, a behavioral scientist, and his research group at *Immersyve* specialize in understanding players' motivations and how to form meaningful experiences across different sectors (with video games being one of the leading research topics). As the talk title shows, Rigby clearly distinguishes between freedom and autonomy. He explains in length why it is extremely valuable for developers to have a nuanced understanding of player autonomy, which he refers to as "probably the single most important player experience variable across all genres" (Rigby 2017: 0:45). Autonomy, which Rigby considers as the foundation of what makes modern games work, is explained as "our desire to feel like we're writing our own story in life. That we're agentic about what we're doing and that we're endorsing the path that we're on" (ibid.: 4:50 – 5:00).

Because video games are a discretionary activity that people engage in willingly, a sense of autonomy is inherent for achieving a meaningful experience within the system's limitations. Payne and Huntemann support this observation, arguing that "The pleasures of gameplay emerge from the productive tension between freely giving ourselves over to a set of temporary restrictions while exercising choice in navigating those unnecessary obstacles" (Payne and Huntemann 2019: 8). The idea of freely surrendering ourselves to the system and its limitations is fascinating, precisely because this devotion clearly means giving up freedom. As Rigby explains, however, autonomy, which in some cases can be understood as freedom or independence, is not such in many contexts, video games included. This perspective is echoed by Menno Deen, whose research focuses on creating a better understanding of the impact and design process of autonomy-supportive games with educational purposes. Deen, a designer and researcher, discusses how

autonomy and freedom do not equal each other, adding, “Whereas freedom suggests an experience without rules, boundaries and other constricting elements, autonomy suggests a more constrained experience” (Deen 2015: 31).

Instead of understanding players’ desire for autonomy as freedom, Rigby suggests we should understand players’ desire for autonomy as volition, meaning that when they act in games, they do so willingly based on our personal desire (Rigby 2017: 8:10). There are, indeed, many instances where we “freely” relinquish freedom in our lives, yet while our freedom becomes limited (for example higher education, marriage, or parenthood), our sense of volition and autonomy, the feeling we are writing our own stories, is rising. Hence, the main argument of the freedom fallacy presented by Rigby, not only debunks the idea that autonomy equals freedom, but also emphasizes that freedom in games (much like in real life) is not the only basic need players have (and necessarily not the most meaningful one). Instead, other aspects we volitionally pursue such as relatedness (discussed extensively in the following chapters) and competence offer much more satisfaction and ultimately, form a meaningful experience (ibid.: 10:10).

According to this principle, video game designers should not strive to provide full freedom and independence to players in order to create a meaningful experience. Alternatively, they should focus on creating a structure, content, and systems with which players are volitionally engaged. This relates to a false dichotomy of game design philosophy, that a game can either present players with a structured, choice-driven narrative single-player game, or let them experience freedom in the sense that they create their own stories in an open world, sandbox-like environment (ibid.: 11:51). Rigby argues that to satisfy players’ needs, “it doesn’t matter if a game presents a rich narrative written by the designer, or if the story is created mostly by the player experience, as long as players experience volition” (ibid.: 12:20 – 12:30).

To achieve this, Rigby recommends to developers that, when designing systems, content, or all the necessary ways to layer activities into a game, they should consider how they are building volition and engaging players in the activity (ibid.: 14:50 – 15:05). In other words, when pivoting from freedom to volition, designers do not have to worry about the limitations structure presents to players or focus on guiding players. According to Rigby's *Immersyve*'s research, "structure is better than providing open and free environments in satisfying people's needs for autonomy" (ibid.: 15:30). When providing structure, game designers essentially communicate to players pathways where they can build volitional engagement (ibid.: 16:15 – 16:25), and as a result, form their own meaningful experiences.

This approach corresponds to the forms of meaningful play discussed by Salen and Zimmerman, in which every action players make should result in "a change affecting the overall system of the game" (Salen and Zimmerman 2014: 33), ensuring that "the relationships between actions and outcomes are both discernable and integrated into the larger context of the game" (ibid.: 34). Another way Salen and Zimmerman state this point is that "an action a player takes in a game results in the creation of new meanings within the system" (ibid.). This is precisely the experience Spector wishes players to have when playing video games, saying that what is truly valuable for designers is when they allow players to make their magic moments, since "Games are about repeated actions where their significance and coolness come from the context, from what the player decides to do" (Spector 2013: 18:08).

Meaningful decisions and the challenge of interactivity

"having the best of both worlds" (Schell: 2015: 343).

The relationship between choice and autonomy is inherent, yet as we discussed extensively, our choices are always limited. Equipped with this understanding, we can circle back to discuss how

players can make meaningful decisions within the system's constraints and the benefits of such constraints. Conway argues that the limitation of choice is the source of players' freedom that enables players' autonomy. According to Conway, "To acknowledge the impossibility of doing everything, to decide on a course of action, is the moment of autonomy. As games and computers set rules, they generate freedom: new acknowledgments, new decisions, new possibilities for play" (Conway 2019: 18). However, Conway goes on to argue that "The more choices the player makes, the more complex, emergent, and free the play becomes" (ibid.). This point will be addressed shortly once we cement the correlation between meaningful choices and autonomy.

In discussing autonomy-supportive environments in games, Deen addresses the role of choices that can elicit autonomous experiences. Such choices, however, must be meaningful (for example, discernable and integrated). Meaningful choices, according to Katz and Assor, "involve the opportunity for a meaningful realization of the individual's desires or preferences" (Katz and Assor 2006: 432 in Deen 2015: 31), and making such choice with a 'real' preference, Deen adds, can affect people's interest, volition, goals, and values, as well as offering ways of self-expression (ibid.). Brown shares the same sentiment, adding that real choices are "meaningful, where the player has autonomy and feels responsible for the outcome, whether that outcome is good or bad." (J. Brown 2016: 17:37).

From a design perspective, Brown acknowledges the importance of supporting player autonomy through limitations, arguing that "when people talk about choices, they very often confuse the concepts of agency and autonomy" (ibid.: 11:20). However, he adds that while agency is our capacity to choose (to do whatever we want whenever we want), autonomy is our capacity to make an informed decision. As a result, this makes the experience of playing games "less about choice and more just your brain agreeing to go with the flow because you've decided that that's

the best option. Autonomy means that you endorse the path that you're on even if that path is completely linear" (ibid.: 11:30 – 11:46). In other words, it is completely fine if designers provide players with only one path to reach their goal, "as long as the player has the autonomy to feel like it's the path that they chose" (ibid.: 12:20 – 12:30).

This sort of manipulation, however, must be considered in the context of modern game design to avoid appearing cynical or even condescending towards players. As previously discussed, the visibility of the reception process in video games means that designers must take into account every possible outcome of the choices available for players and present it in a compelling and engaging way. Making any outcome playable or fully rendered in a cut scene using current game engines is nearly impossible, as it requires time, staff, and budget beyond what most game studios can afford (development time, developing teams, and budgets of AAA games are, in many cases, on-par or even exceed those of Hollywood blockbusters).

Schell presents a fascinating anecdote that demonstrates the challenges of interactivity. In 1961, William Castle directed and produced *Mr. Sardonicus* (Castle 1961), a horror film that featured an unusual gimmick for the time: it offered the idea of two possible endings, which the audience could choose by holding up a "thumbs-up/thumbs-down" card deciding if the villain should suffer punishment and die or be forgiven. Based on the audience response, the projectionist could load the film reel presenting the appropriate end scene. However, according to most film historians, the "merciful" ending was never actually shot. As Schell explains, "Castle had significant confidence that audiences would choose the "punishment" reel. He was so confident, in fact, that he never bothered to film the "forgiveness" reel, and no audience ever noticed" (Schell 2015: 351).

The question of whether both scenes were shot is debatable, but either way, it is a thought-provoking demonstration of the control (or lack of it) creators have in guiding (or anticipating) audience decisions. Modern video games, however, do not have the same luxury Castle had, since interacting with a video game is much more complex than presenting outcomes based on binary decisions. Rigby refers to this challenge as “the mind-reading dilemma” (Rigby 2017: 28:10, 58:40) (recalling the case of *Mr. Sardonicus*), meaning that game designers cannot fully realize every possible outcome, risking breaking volitional engagement (ibid.). As a result, video game designers must find creative ways to accommodate players’ actions and possible outcomes while maintaining players’ autonomy. They need to frame choice in the context of a game’s fiction in order to break free of binary decisions, while at the same time, due to production limitations, controlling such choices so they can communicate specific themes and messages players can draw meanings from.

Schell offers ways in which this can be achieved, or what he refers to as “having the best of both worlds” (Schell: 2015: 343), meaning that despite having few choices (or even no choice at all), players have “the wonderful feeling of freedom, and the designer has managed to economically create an experience with an ideal interest curve and an ideal set of events” (ibid.). How is it possible, Schell asks, if a designer has no control over what a player does when they enter a game? The answer, however, is that while designers do not have direct control over what a player does, they can exert indirect control over a player’s actions through various subtle means (ibid. 344). Schell argues that “indirect control is possibly the most subtle, delicate, artful, and important technique of any we will encounter” (ibid.) and suggests six possible methods to help ensure players do things of their own free will (or feel as though they did). These are 1) constraints (as discussed, constantly used in games); 2) setting goals for players to “freely” pursue; 3) the game’s

interface (which binds players' actions to either physical or virtual interface); 4) visual design (drawing players' attention towards objects, locations or characters by making them visually distinct and interesting); 5) NPCs that players are interested in engaging with (obey them, protect them, destroy them) as will be discussed extensively in later chapters; and finally 6) music and other auditory cues that can draw players attention towards points of interest the designer wants them to notice (ibid.: 344 – 353).

Addressing the same topic, Rigby suggests that the key is not to offer more (activities, choices, freedom), but to offer a density of things that matter (Rigby 2017: 18:00). In other words, even though players tend to project autonomy into size (which they interpret as freedom), enormous, open game worlds filled with side-missions and activities do not necessarily support volitional engagement and players' autonomy. In fact, if such sandbox-type games are filled with activities that are decoupled from satisfying players in a meaningful way, they become distractions, or what Rigby calls motivational “sand traps” that break volitional engagement (ibid: 12:49).

Regarding production limitations, Rigby presents an example of a dense, narrative-driven game that delivered on the promise of impactful choices. *The Witcher 3: Wild Hunt* (CD Projekt Red 2015) offered 36 variations of endings and outcomes based on decisions players made throughout the game, and while each outcome was, of course, pre-designed, it had a meaningful impact on the story, the relationships, and the fate of the game's universe. The studio, however, could not fully render all these outcomes in-engine or present them as 3D cut scenes and instead chose to present them in comic book style artwork.



Figures 2 & 3: On the left is a fully rendered cut scene, while on the right is an image in the art style used to present one of the game’s multiple endings. *The Witcher 3: Wild Hunt* (CD Projekt Red 2015).

According to Rigby, CD Projekt Red’s decision to trade fidelity³² for a more straightforward, cost-effective art style supported players’ autonomy by allowing them to witness the unfolding of the story *they* were writing, based on *their* meaningful choices (Rigby 2017: 32:00). This ultimately supports the idea that freedom is an illusion created when we feel fulfilled, and a well-designed experience allows us to achieve this feeling.

Finally, we should address Conway’s argument that “The more choices the player makes, the more complex, emergent, and free the play becomes” (Conway 2019: 18) and ask how it aligns with the discussion presented so far. Such understanding depends on our interpretation of “more choices.” As discussed throughout this chapter, all actions players make in a game equal choice. While every choice must operate within the system and according to its rules (in other words, is pre-designed), not every choice must be *controlled* to be *meaningful*. In a well-designed game (not necessarily a well-designed choice architecture), each one of these choices can be meaningful: choosing when to reload a gun in the heat of battle, lob or pass the ball in extra time in a football match, invest experience points in stamina or dexterity in a role-playing game. Every choice matters. This is the magic/illusion of video games.

The emotional engagement of play versus watch

“That’s for me. That’s my personal experience” (in Taylor 2018: 98).

Considering the discussion presented in this chapter, it might be difficult to understand a common notion Isbister points to, that games “numb players to other people, stifling empathy and creating a generation of isolated, antisocial loners” (Isbister 2016: xvii), a criticism, Isbister argues, that is directed at video games mainly by non-gamers. Such a major discrepancy can be better understood now, considering the very essence of video games: interactivity, or more simply, play.³³ Rollings and Morris, however, present an interesting argument, stating not only that interactivity does not equal gameplay, but that it is in fact a much more important aspect of video games (Rollings and Morris 2004: 80). Gameplay is simply one way of interacting with a video game, they add, one which “enriches the experience because it allows you to interact and take the experience somewhere. It’s the difference between idly kicking a football about in the back yard and setting up a pitch with goals and having a match” (ibid.). Rollings and Morris offer other meaningful ways of interacting with a video game, such as affecting the game world, influencing a character’s actions, or deciding which characters to follow rather than what happens (ibid.: 81).

The distinction between interactivity and gameplay is a provocative argument, and while interactivity is certainly not confined to gameplay, the distinction in relation to video games seems mainly semantic rather than contextual, especially when considering how ubiquitous the use of the term interactivity was in the early 2000s when these arguments were made. Sjöblom and Hamari’s argument, for example, is not drastically different, yet they avoid a clear distinction between gameplay and interactivity, saying that interacting with games through watching rather than playing is “unintuitive,” since “games are a highly interactive form of media and that the

gratification associated with the media is based on active and direct interaction with the game” (Sjöblom and Hamari 2017: 989).

Isbister, on the other hand, highlights play as what makes games emotionally engaging, arguing that games are *meant* to be played. As we have seen, it is the act of playing that reveals the medium’s full range of emotional qualities, emotions that Isbister argues are experienced differently when one watches a game rather than actively playing it (Isbister 2016: xvii).³⁴ This is not to say that games do not or cannot stimulate emotional responses from viewers. After all, we do not question the ability of films or TV to impact us emotionally, nor do we doubt the emotional involvement of sports spectatorship. As Isbister points out, some of the feelings video games evoke are “a lot like feelings that we experience with other media — such as suspense, thrills and chills, and happiness or sadness about how narrative events play out within a story world” (Isbister 2019: 134).

Nevertheless, there are “additional feelings that games are particularly good at evoking in players — feelings that hinge on players taking consequential actions within game worlds” (ibid.).³⁵ However, as we witness video game consumption habits drastically changing in recent years, notably the surge in popularity of watching other people play video games on live streaming platforms such as Twitch and YouTube Gaming, this observation, and the discussion of play versus watch concerning emotions in gaming, should be extended and challenged. When examining viewers’ motivation, habits, and participation levels, this relatively recent phenomenon provides us with an opportunity to explore and better understand the emotional capacity of video games beyond play, to consider why certain types of games are more popular to watch than others, and to extend our discussion on players’ autonomy.

In their 2017 paper, Sjöblom and Hamari examine the motivation for watching others play video games on Twitch within the framework of Uses and Gratification Theory (UGT), which suggests that our choices to consume certain media over others are based on the gratification they offer. The study finds that the primary motivations associated with how many hours people watch video game streams are tension release (described as escape and diversion), social integrative (enhancing connections with family, friends, and so forth), and affective motivation (emotional, pleasant, or aesthetic experience) (Sjöblom and Hamari 2017). A key element in these findings concerns the types of usages related to the consumption of the video game streams the study examines, all of which have been found to focus on the individuals streaming the game and the communities formed around streaming channels, with followers, subscribers and hours watched being the main variable. Hence, the traits discussed are not linked to the games being streamed, but to the streamers' persona and the community aspects that emerge from chat and comment interactions.

Sjöblom et al. expand on the topic when addressing the relationship between video game genres, content type, and viewer gratification in the context of live streaming (Sjöblom et al. 2017). The study considers video game genres and examines how the consumption of certain genres as well as the type of streams (for example, competitive, casual, talk show style, reviews, etc.) associated with affective motivation, tension release, information seeking, learning to play, personal integrative and social-related gratifications from spectating (ibid.). In relation to affective and tension release, the study shows that “stream types are considerably more important for obtaining affective gratifications than individual game genres” (ibid.: 164), adding that “while genres could be considered important in the sense that spectators might be fans of one or more genre and stick to it/them, it seems that genres merely serve as a framework upon which the

streamer builds their content. In reality, it appears that the structure of a stream has much more impact than which game is actually streamed” (ibid.).

Game genres matter more when discussing information seeking and learning to play motivations, especially in the form of reviews (obtaining information about a game before purchase from a streamer viewers trust), “how to play” streams, specifically aimed at teaching viewers how to play a certain game or overcome a particular challenge, and competitive streams allowing viewers to learn valuable strategies from streamers in multiplayer games (ibid.: 166). Finally, in relation to personal integrative versus social integrative, the study finds a correlation between rhythm games and sandbox-style games (which tend to be slower-paced and relaxing compared with action-packed shooting games or competitive multiplayer games) and casual streams, with an emphasis on facilitating interaction between streamers and viewers (ibid.: 166 – 167). The focus in these cases once again is on communication and community aspects, and not necessarily on the game being played/watched (ibid.).

Similar findings are presented by Wulf et al., who discuss how experiences related to specific Twitch aspects, mainly the relationships between viewers and streamers, contribute to the enjoyment of using the platform. The study finds that “Twitch’s success is most likely a result of its functionality as a social medium” (Wulf et al. 2018: 340), where the focus is on the interactions between streamers and fans (including interactions among fans). Even aspects such as the suspense of the streamed video game are related to the viewers’ support of their favorite streamer (similar to fans watching together matches of their favorite football team, chat users cheer with others for their favorite streamer) and not to the game being played (ibid: 334).

Lastly, T.L. Taylor presents one of the most thorough examinations of video game live streaming in her 2018 book *Watch Me Play: Twitch and the Rise of Game Live Streaming*. While

her book focuses mainly on the production side and the people who stream video games, she addresses the viewers and what draws them to watch others play. Taylor identifies six clear motivations for why people watch game live streams: 1) aspirational (wanting to be better gamers or aspiring to be a popular, beloved public figure like their favorite streamer); 2) educational (investigating something about the game, for example, helping decide if they want to buy it or gaining insight into specific techniques for how to play); 3) inspirational (tied to fandom, where viewers discover pleasure in watching another person playing something they are passionate about); 4) entertainment (the pleasure of being entertained, through humor, discovery or experiencing the emotionality of the game alongside the streamer); 5) community (the desire to have a feeling of community or a social experience); and 6) ambiance (keeping a stream on all day as familiar and comforting background noise and movement) (Taylor 2018: 39 – 41). According to Taylor, all these motivations “are not determined by the content of the broadcast itself but instead tied to the context and disposition of the viewer” (ibid.: 39).

Compared with the motivations to play video games, it is clear that watching others play is a “predominantly socially enjoyable experience and a space to interact with peers having the same interest in an easily joinable community” (Wulf et al. 2018: 342). Twitch viewership statistics reinforce this argument, demonstrating which categories generate the most views. Since May 2020, the top category on Twitch has been “Just Chatting,” a category where streamers mainly communicate with their audience, sometimes without playing any games at all (TwitchTracker: Top games through history). This leads to the question: since viewers are missing direct interaction with the game, and their motivations to watch/participate in a stream are mainly social and directed toward the streamer/community, does the game being streamed even matter? How does it align

with the argument that games must be played for their full emotional range to be unveiled, and what does it tell us about emotional involvement and autonomy of play versus watch?

To answer this question, we need to consider which games gain the most popularity on Twitch, currently the leading video game live streaming platform. With video game genres being inherently different, from highly competitive multiplayer games to intimate single-player adventures, looking at the type of games that generate the most viewership can help us correlate different emotions with the type of games experienced mainly through watching rather than by playing. Examining the top ten most popular games (by the number of viewers) on Twitch throughout 2021 (TwitchTracker: Top games through history) reveals a clear pattern regarding the type of games with the most viewership on the platform: online multiplayer, competitive games that emphasize action and skills over meaningful (narrative related) choices, profound lore, and engaging, distinct virtual characters.

The dominating genres are: battle royale shooting games (last-man-standing type of games) such as *Fortnite* (Epic Games 2017), *Call of Duty: Warzone* (Raven Software and Infinity Ward 2020), and *Apex Legends* (Respawn Entertainment 2019); multiplayer first-person shooters as *Counter-Strike: Global Offensive* (Valve Corporation 2012), *Escape from Tarkov* (Battlestate Games 2017) and *Valorant* (Riot Games 2020); and multiplayer online battle arena games such as *League of Legends* (Riot Games 2009) and *Dota 2* (IceFrog 2013). Completing the list are *Minecraft* (Mojang Studios 2011), an open-world sandbox game focused on creation, exploration, and strong community aspects, and *Grand Theft Auto V* (*GTA V*) (Rockstar North 2013), originally a story-driven, single-player action-adventure game with a rich narrative and complex characters. A month after its release, *GTA V* received an online mode update, titled *Grand Theft Auto Online*, an immensely popular standalone mode of the base game which allows players to engage in

cooperative and competitive activities within the game world, and was the most-watched game on Twitch in 2021 (Valentine 2021). Averaged viewership of these ten games accounted for 39.7 percent of all Twitch views in 2021, compared with 47.2 percent of viewers of an average of 21,399 games streamed throughout the year (TwitchTracker: Top games through history).³⁶

It is clear then that narrative-based, single-player games such as the ones examined in this study generate significantly lower viewership than action-packed multiplayer games. This by no means suggests that these types of games lack popularity or critical acclaim. In fact, single-player, story-driven games focused on meaningful relationships and bonds between players and virtual companions are among the highest-ranked games in the entire medium.³⁷ At the same time, from the top-ten most-watched games on the Twitch list, only *GTA V*, *Minecraft*, and *Dota 2* received a score of 90 or higher³⁸ (Metacritic 2019).

The data shows that games designed around meaningful and complex emotional themes are experienced primarily by play, while games focused mainly on action and competition generate more viewers. A possible explanation is that single-player, narrative-based games do not have the same replayability qualities as competitive multiplayer games, where each round or match plays differently, making them fun and exciting to watch repeatedly. This is not the case with linear narrative-based games since once the story concludes, there is little incentive to tune in and rewatch the same events unfold in (mostly) the same manner. However, even at their peak viewership (usually around the time of release), single-player narrative-based games never gained viewership numbers close to multiplayer competitive games.³⁹

Hence, since we see that players prefer to experience such games for themselves by playing rather than watching, we should consider the range of activities and emotions games can present and convey exclusively through play. This circles back to player's autonomy, since such activities,

while confined within the boundaries of the system, relate to the ability of players to embody a player-character, explore the game world at their own pace and will, form, impact, and maintain relationships with companions and other NPCs by themselves and make the choices that end up shaping the narrative and the fate of the game world.

Intriguingly, as we better understand viewers' motivations and preferences, Taylor presents revealing comments from the streamers' perspective that reinforce this argument. When conducting her research, some streamers expressed a desire "to withhold a game that they were particularly personally invested in, or wanted to experience in a more solitary or private way" (Taylor 2018: 98). Taylor discusses how, for such titles, streamers wanted to have the space to play a game without being entertaining and to savor the experience. Unfortunately, she does not mention which games streamers decided to experience in privacy, only that these are games where the story plays a central part, as one streamer reasoned the decision not to stream a game because "That's for me. That's my personal experience," adding that broadcasting this specific game would disrupt the play experience they wanted to have with it, since "I know that the story is going to draw me in" (in *ibid.*). The comment of another streamer Taylor interviewed similarly displays the pull that a game's narrative can have on its players:

What's funny is I will sit and play a video game for six hours on my broadcast, and then when I get done, I will sit [with it] for a few more hours because playing that game with the viewing audience, it's such a stressful [experience], and for me, you really can't get involved in the story and things like that. That's why I tend to shy away from playing RPG- type games because I just can't get enveloped in that world, which for me, that's really everything (*ibid.*).

Wulf et al., when discussing the relationships between viewers and streamers, also comment on the different experiences generated by play versus watch regarding players' accountability and, ultimately, a sense of autonomy. According to Wulf et al., "Contrary to individual gameplay situations, in which success and failure determine personal feelings of competence [...], when using Twitch, success and failure will not refer to the users' abilities but to the abilities of the streamer" (Wulf et al. 2018: 11).

Finally, Isbister comments on this topic by presenting research findings indicating how gamers showed more activation of parts of the brain associated with motivation and reward than those who watched passively a live video stream of another person playing (Isbister 2016: 3).⁴⁰ According to the research, Isbister adds, interacting with the game "shifted the emotional patterns observed in the players' brains, demonstrating how we human beings experience particular rewards and emotions from the act of playing" (ibid.).

This section demonstrates many of the topics discussed throughout this chapter and encapsulates a key concept that proved crucial in our interaction with video games. As we have seen, much of the medium's absorbing nature is attributed to its potential to affect players emotionally through a feedback loop between their actions and outcomes. While multiple limitations of this system were discussed, none refute the emotional impact of such a "reciprocal" relationship players form with a well-designed game. In discussing other ways video games are consumed, we are able to consider different degrees of interaction with the medium. Games can (and are) captivating in different forms even when interacted via proxy (live stream or recorded session), but unless play is involved, the feedback loop is broken.

This cements the notion that meaningful play and the emotional experiences drawn from games are not only unique but might be exclusive to the medium. Games that aim to produce

emotions more varied (and perhaps complex) than competition-based thrill and exuberance often use NPCs to produce and support such emotions. As we have seen, players embrace the feedback loop these games offer precisely because it is embedded in the design of play, diminished, or entirely lost if interacted with otherwise. Hence, since many of these experiences involve virtual characters, we must ask how interactions with such characters abide by the concept of actions and outcomes discussed so far.

First, however, we need to understand better what (or who) these characters are. Virtual characters have numerous forms which are not exclusive to games nor unified within the medium and draw much influence from multiple arts, technologies, and media. To set up the discussion on our relationship with such characters, we should first understand their capabilities and the forms of interaction they offer players, as will be discussed in Chapter Two. In addition, the chapter will examine how such characters evolved, and what can we learn and potentially apply from interactions with virtual agents (a term that deserves examination) beyond video games.

Chapter Two:

Understanding virtual characters in video games and beyond¹

The previous chapter presented an extensive discussion on the growing body of work exploring the role of emotions as “both motivations for and consequences of play” (Hemenover and Bowman 2018: 129), as identified by both video Game Studies scholars and game designers. Despite the richness of emotions offered by the medium, it is clear that while some emotional experiences are well represented in both games and Game Studies literature (for example, anger and pleasure, fear and guilt), many others are not given much investigative attention (ibid: 130.). Hemenover and Bowman mention that, for instance, “there is very little extant work examining how video games impact basic emotions such as pride, interest, surprise, disgust, and sadness or complex, higher-order emotional experiences such as jealousy, embarrassment, scorn or love” (ibid.). Among these often-ignored experiences (at least from a scholarly position) is the “sympathetic compatibility between or among individuals” (APA Dictionary of Psychology: rapport), or rapport, formed between players and NPCs. Rapport is commonly understood as a state rather than emotion, yet emotions are the bridge leading to its formation and can be examined accordingly.

Hemenover and Bowman rightfully indicate the need to “examine the full range of possible video game-mediated emotional experiences” (Hemenover and Bowman 2018: 133) (both positive and negative feelings), which can then be applied to different orientations. An essential related direction for future research, they add, involves not only *which* emotions video games explore but *how* video games elicit these emotional experiences. The case of rapport, however, is highly complex as it involves interaction (and potentially relationship) with virtual entities in different forms: from disembodied, autonomous virtual agents to fully animated, fully scripted virtual

characters and any other form on this scale. To understand our relationship with virtual characters, we should first understand *what* and *who* these characters are. What are their capabilities, and what forms of interaction do they offer players? How have such characters evolved, and what can we learn and potentially apply from interactions with virtual agents beyond video games?

This chapter will present a non-technical examination of a variety of virtual entities and the designed emotionality of interacting with these technology-based creations. In discussing their operation, purpose, and application, this chapter (and the following) helps define the type of virtual characters to be analyzed in this study.

Humanizing technology

“Humans — not only naive ones — treat computers like persons” (Trappl and Payr 2002: 1).

In 2002 *Emotions in Humans and Artifacts*, a collection of essays covering the study of emotions from multiple perspectives and disciplines (brain research, cognitive science, philosophy, software development, and game design), Robert Trappl and Sabine Payr pose a correlation between the growing interest of emotions study and technological development of the 1990s. One of the reasons emotions have become a prominent research topic alongside technology, they argue, is that “Humans — not only naive ones — treat computers like persons” (Trappl and Payr 2002: 1), an observation² based on several specially designed experiments with a clear callback to Turkle’s “ELIZA Effect.” Consequently, Trappl and Payr present the idea of reciprocal relationship, asking, “if people have emotional relations to computers, why not make the computer recognize these emotions or make them express emotions?” (ibid.: 1 – 2).

Efforts to establish a reciprocal relationship between humans and technology spawned a branch of Artificial Intelligence focused on emotions (also known as ‘Affective Computing’) that

allows computers to analyze and understand anything from spoken language and voice tones to nonverbal signs such as facial expressions, body language and gestures, to assess our emotional state (viso.aiv 2022). The implementations of “humanizing” technology through efforts such as machine learning and perception in different forms (robots, virtual assistants, or characters in virtual spaces) are seen across various sectors and industries. These digital beings, as discussed by Costa and Ribas, are often anthropomorphized, giving users the false sense that they are talking to another person, adding that “human-machine interaction is influenced by feelings of intimacy, closeness and empathy” (Costa and Ribas 2018: 106). Richardson adds that artificial intelligent entities can “help fill the gaps in human social relations to become companions” (Richardson 2015: 15) to a growing elderly population, therapeutically support children with mental disabilities and even serve as sexual companions (ibid.).

In this discussion, video games are unique, as the medium is positioned at the intersection between technology and the arts. While they are technology-based, video games share properties from literature (narrative), manifested in forms of other audial-visual media (aesthetics and presentation), and operate and interacted with using attributes exclusive to the medium (mechanics and gameplay). Hence, discussing virtual characters in the context of video games demands a close examination, considering both fields. Applying to video game characters only attributes found in traditional storytelling arts and ignoring traits exclusive to their digital form and existence in virtual environments (or vice versa) would limit our understanding of their capabilities and limitations, equally significant in the interaction process and rapport building. For this purpose, this chapter inevitably discusses technical terms commonly found in computer science and AI research in non-technical ways (admittedly, the author has only a basic understanding of such concepts). Terms such as virtual characters, virtual agents, believable agents, chatbots, and other terms discussed in

this chapter will be explored by considering their form and function and, at times, by using examples found in other disciplines in the hope of making the discussion more accessible for the reader. I believe these concepts are highly relevant in understanding, and hopefully appreciating, the broad potential of interacting with video game characters.

This potential must take into consideration the discussion presented in the previous chapter. As established, games are rule-based, and anything happening on screen, including the actions, reactions, and behavior of virtual characters, is structured and limited to lines (of code or text) written by the designer. However, this rigid structure has different degrees (or variations) of limitations we should consider, as well as exploring more comprehensive ranges of interactivity and discussing some of the technologies that enable it. These are mainly experimental projects/games focused on AI research (many of which began as students' projects), aiming at developing AI that can “naturally” respond to various actions (or in some cases speech) performed by players, generate simple stories or scenarios based on player's input or demonstrate context awareness, dynamic reaction to contingencies and attention to their surroundings.

Some of these include the Impulsion Project (2012), which is aimed at making “lifelike interactive characters who grasp situations, react to contingencies, and appear aware of their surroundings” (Impulsion Project 2012). Others, like Versu, present an AI engine that gives each game character unique personality traits and inclinations. These characters remember how the player has treated them and “can become your friend, your lover, your mentor, your worst enemy. They notice what you choose to say, but they may also react to gestures, expressions, whether or not you laugh at their jokes” (Versu 2013). *AI Dungeon* (Latitude 2019) displays a different approach and is a simple text-based fantasy simulation where the AI generates the scenarios according to players' input.

Many of these games/projects use procedurally generated content, a technology first implemented in computer games in the late 1970s. Procedural generation is, at its core, an algorithm that enables the creation of data by computers rather than humans (using available assets for the AI to choose from, manipulate and interact with). In modern video games, procedural generation is mostly used to create systems or content such as landscapes, objects, and animations, or in advanced cases, characters, dialogue, and narrative. These are relatively rare, and most procedurally generated content seen in games are levels, environments, and objects. One of the most effective showcases of the usability of this technology is *No Man's Sky* (Hello Games 2016), a game built of a procedurally generated universe containing 255 galaxies and no less than 18 quintillions (18,446,744,073,709,551,616 to be exact) “unique” planets for players to explore fully and freely, each with relatively different terrain, vegetation, and species, but also lacking any storytelling elements. On the other hand, games like *Hades* (Supergiant Games 2020) and *Returnal* (Housemarque 2021) embed storytelling bits in procedurally generated randomized blocks (environments and chambers) that carry the atmosphere and world-building across all of them, ensuring that each time the AI shuffles these blocks, the narrative recognizes it, so players get exposed to storytelling sections over multiple sessions despite their random order.

While most procedurally generated content focuses on creating varied environments and scenarios serving as the backdrop for action or exploration, in our discussion on relationships and reciprocation, few projects use procedural generation to enable “natural” interaction with AI entities in games. Throughout this chapter, I will discuss some of the more well-known examples, projects that gained mainstream attention (which was not always translated to success) thanks to their innovation and focus on rapport building with virtual characters.

Project Milo

“You’re actually sculpting a human being here” (Molyneux 2010: 2:55 – 3:05).

One of the most high-profile examples is Project Milo (Lionhead Studios 2009), a tech demo of an emotional AI, spearheaded by game designer Peter Molyneux for Microsoft Xbox 360 game console and the Kinect peripheral, a motion sensing camera with speech recognition, interacted with by gestures and voice control. The Kinect was designed as Microsoft’s flagship product in its efforts to gain dominance in the game console market, and Project Milo was the biggest showcase of the new technology. Molyneux, known for his ambitious projects and hyperbolic statements, referred to the Kinect as a landmark in computer entertainment, his dream technology that will allow the creation of an experience where players can meet what he believes is a real character that understands players’ voices and emotions. Molyneux envisioned the Kinect as a peripheral that would finally make it possible to address “that one problem of storytelling: to create a character which seemed alive, which notice me, that could look me in eyes and feel real, and sculpt a story about our relationship” (Molyneux 2010: 0:10 – 0:33).

The result was Milo, an 11-year-old virtual child that players care for and interact with using gestures and speech, who responds (by actions or pre-recorded speech), learns, and develops based on these interactions. According to Molyneux, interactions with players constantly shape Milo’s “mind,” meaning that “no two people’s Milos can be the same. You’re actually sculpting a human being here” (2:55 – 3:05). Despite a prominent showing at Microsoft Xbox press conference at 2009 E3, the most influential video game convention at the time, and a well-received live demo at a TED Talk by Molyneux a year later, Milo was never publicly released as a commercial product or evolved beyond a tech demo (for reasons that were never fully disclosed). While some of Milo’s features appeared in Lionhead’s other projects (such as his emotional reactions and some of the

motion gestures), Molyneux's hopes to create a "real, living being in a computer"³ (1:28 – 1:32) were never fully realized, and the project was officially canceled in late 2010.⁴



Figure 4: Milo E3 2009 demo
(Lionhead Studios 2009).

Retrieved from Thorsen 2010.

Event[0]

"the AI entity has a strong personality" (Ocelot Society in Matulef 2016).

Event[0] (Ocelot Society 2016), on the other hand, began as part of a graduate student project. Despite being significantly smaller in scale and budget than Milo, it was released as a full game in 2016. In the game, players explore a spaceship and interact with its computer "Kaizen" — their only companion/adversary in the game — who can procedurally generate over two million lines of dialog. The procedurally generated conversations between players and the AI entity are executed using commands or questions typed in natural language into computer terminals across the ship. Kaizen then replies by text (and voiced using text-to-speech)⁵ according to the current context, such as the player's location and previous conversations. In addition, each interaction is impacted by Kaizen's emotional state: The AI has three levels of affection for the player (love, indifference,

hate) and three stress levels (anger, stress, calm), making for an emotional matrix with nine different states (M. Brown 2016: 2:30 – 2:42). According to the game’s developers, “the AI entity has a strong personality influenced by human input. Players communicate by typing messages into a computer, and Kaizen responds. As in any relationship, there can be gratitude, disappointment or jealousy, and Kaizen reacts differently depending on its mood” (Matulef 2016).

Unlike Milo, the text-based interaction meant that no lines of dialogue had to be pre-recorded, allowing for a much larger pool of topics that the AI could comment on or respond to. In addition, communicating with an AI entity in the form of a computer via text made it easier to overlook instances where it did not understand player’s input or intention, or provided awkward or irrelevant responses, helping to maintain the illusion of real interaction which could be easily broken with human characters.⁶ Despite its short length (about three hours) and constraining input system (limited to a keyboard), *Event[0]* succeeds in exploring different possibilities of human-computer interaction in video games — a relationship that usually depicts the AI as a hostile entity with limited interaction options — and creates a convincing character that can (most of the time) understand players’ intentions and respond in believable ways, as well as changing its mood depending on circumstances and the ways players spoke to it.



Figure 5: In *Event[0]* (Ocelot Society 2016) computer terminals are used to interact with Kaizen, the game’s AI entity. Retrieved from Matulef 2016.

Façade

“Video-Game Land, where shooting people is easy but talking to them is hard” (Rauch 2006).

Perhaps one of the most fascinating and complex examples (despite being the earliest of the ones presented) of procedurally generated narrative built around player-NPC interaction is *Façade* (Procedural Arts 2005), a unique project that requires a closer examination. The game’s premise is simple and intimate: the player is invited over by his longtime friends Grace and Trip (the NPCs), a married couple going through turmoil in their relationship. The visit and the player’s role are crucial, since based on interactions with the couple they will either overcome their marital crisis and save their relationship, choose to break up the marriage (which can be initiated by either Grace or Trip), or get offended by the player, asking her to leave the apartment. Players communicate by directly typing anything they want or feel that might help the couple solve their problems since the “goal” is to try and make them work through their problems by making both confess what bothers them about each other.

Players, however, are not constrained to helping Grace and Trip and can instead choose to provoke or upset them with nasty remarks, flirt with one (or both) and even try to uncover their most hidden secrets. During some arguments, players might have to take sides or interrupt both partners to comment on the topics they argue. Unlike games that present a scripted dialogue for the player to choose from, in *Façade*, players can “talk” about anything they like (but unrelated topics will trigger either awkward responses or be ignored completely), from criticism to praise, agreement and disagreement, or even more sensitive topics like divorce or the couple’s love life (Anton 2014).



Figure 6: Interacting with Grace and Trip in natural language. *Façade* (Procedural Arts 2005).

Grace and Trip, both fully voiced, are powered by an AI that allows them to change their emotional state, response, and attitude (towards each other or the player) in fairly complicated ways depending on the conversation being typed in by the player and the events and topics discussed, which are decided at random by the game. At the time of release, *Façade*'s approach to player-NPC interaction and procedurally generated storytelling was a significant innovation, aiming at crafting a fully interactive drama that few games managed (or attempted) to replicate. Interaction with the NPCs (which the developers call “virtual actors”) is done by wandering through their apartment and examining objects and furniture around the house that trigger their response, but as mentioned, most meaningful interactions are made by “talking” with them directly using a keyboard. Grace and Trip are then able to interpret player's inputs and respond accordingly, reacting with a variety of complex emotions: “elation, surprise, laughter, disgust or even anger as you challenge their points of view, compliment them on their decisions, ask them about issues they don't want to discuss or just outright insult them” (Thompson 2020).

To fulfill the idea of autonomous interactive characters and an AI that can pace, coordinate, and manage the interaction, the creators developed a system called the “Drama Manager.” Tommy Thompson, who presents an in-depth breakdown of how *Façade* works and the layers of the game’s AI systems, explains that the Drama Manager is capable of “figuring out where the plot goes based on what happened and how the emotions each character is ‘feeling’ (or rather, has recorded) at that time” (ibid.). This works parallel with the “Action Behavior Language” (ABL), which encodes and controls the virtual actors. ABL is like the actors’ minds, an AI system that executes pre-recorded dialogue chosen for each character in a specific situation (ibid.) but is also capable of deciding how a particular character will act. For example, Trip can simultaneously mix a drink, walk across the room, and argue with Grace, as a human actor could (Rauch 2006).

As for player’s input, *Façade* runs an interpreter in real-time that attempts to identify the underlying sentiment of players’ input and uses it “to influence how the drama manager coordinates story beats — potentially adding new story moments, re-writing the plot as it goes — which ultimately influences how the actors respond to you” (Thompson 2020). The game has seven different endings (one “good” ending and six endings where Grace and Trip cannot reconcile) that unfold depending on each playthrough’s interactions and scenarios. Despite having five hours of recorded dialogue by actors, each playthrough only lasts around 20 minutes, with the Drama Manager choosing from the raw recordings appropriate lines for each character based on the state of the interaction. The designers view *Façade* as a “one-act drama” that can unfold in different ways with each play in what they call “Generated Stage plays,” meaning that with each playthrough, a new stage play is generated (an in-game message mentions that “*Façade* needs to be replayed several times, to experience the variation in the drama”).

Façade began as a research project fueled by the ambition of Andrew Stern, a game developer experienced in making “virtual creatures emotionally appealing and realistic to play with” (Rauch 2006), and Michael Mateas, who focused his research on “building physical and digital avatars that expressed some form of intelligence that could build emotional connections with human users” (Thompson 2020). The game is one of a few research projects that achieved global status, with exposure in mainstream media and award recognition, as well as becoming an internet sensation with popular YouTubers picking up the game and streaming it live (mainly showcasing how absurd the interactions can become).⁷ *Façade* is unique not only due to its innovation and execution but also thanks to its development and the ambition of its developers to create a new art form, a revolutionary innovation of virtual characters and lifelike relationships. However, the question of whether this aspiration was fulfilled poses an interesting discussion.

Jonathan Rauch extensively explores *Façade*’s unique elements and its development process in his article for *The Atlantic*, where he explores a new generation of innovative and emotionally complex video games. The game industry at the time (the mid-2000s) has often been criticized for lack of innovation, dominated by mainstream games that utilize cookie-cutter design filled with flat characters shooting even flatter enemies. As a result, many video games were viewed — even in the eyes of some developers — as lacking any “real” meaning. Stern and Mateas certainly felt that way. When asked about the state of the game industry and the games that were shown at 2005 E3, Stern replied: “I shake my head a little. All this effort and money being poured into all this derivative and uninspired work. I’m bored and slightly disgusted” (Rauch 2006). The two were interested in creating a mature “interactive drama” that contains “artificial people you could converse with, get to know, and love or hate. It might engineer dramatic situations, complete with revelations and reversals” (ibid.). In other words, they wished to create a game where players

are not shooting virtual characters but talking to them instead. Building rapport and connecting with believable⁸ virtual *people* through conversations and lifelike interactions, forming deep and meaningful relationships.

As Rauch explains, meaning is the catalyst that turns action into drama. “Meaning requires words, not just sounds. It requires characters, not just figures. It requires dramatic shape: a sense that the action is leading to some transformation or resolution. It is what Stern and Mateas resolved they would bring to video games” (ibid.). While *Façade* can get quirky and awkward sometimes, it delivers on the drama front. Most role-playing games in the 2000s could present less or more elaborate dialogue trees for players to choose from when interacting with NPCs, who would then respond with bits of pre-recorded dialogue. This technique is not ineffective, but if not properly coupled with other unique aspects of the medium (such as mechanics and gameplay), the scripted nature can severely limit the player’s ability to embrace the player-character as herself fully. *Façade*’s approach was different, compromising on the “game” aspects in exchange for more complex verbal interactions with Grace and Trip (an approach placing usability at the expense of play).⁹ As mentioned, players can “say” anything without constraints or rules. There are, however, repercussions to what players say, which in turn generate meaning.

Rauch describes the experience of playing *Façade* as both uncanny and frustrating. He explains:

Uncanny because Grace and Trip, despite being simply drawn, are at moments shockingly natural . . . Frustrating because, for all their innovative AI-driven mechanics, Grace and Trip remain too dumb to sustain the illusion of humanness. When I played as a woman (I could choose my sex) and announced I was pregnant

with Trip's child, Grace and Trip thought I was flirting with them. They really only guess at a player's meaning, and they don't guess very well (ibid.).

These instances (which *Façade* is full of)¹⁰ can quickly turn the experience from dramatic to comical and even absurd, shattering any illusion of interacting with “real” characters. The experience also turns predictable after the second playthrough or so, as Grace and Trip snap at each other at scripted moments or confront the player with a serious question about their relationship after a specific topic comes up. During these moments, they will ignore anything the player says until receiving a yes or no reply.

Despite these and other limitations, Rauch admits that after a successful playthrough, he felt “a strange desire to please these characters and, despite my better judgment, touched when Grace reveals she's scared of painting and they reconcile. *Façade* feels like the small-scale, no-budget, first-try research project that it is. But it was still capable of working on my emotions” (ibid.). As Stern notes, designing an emotional experience based on rapport with virtual characters was precisely their intention when developing *Façade*: “Making players feel a true connection to characters on the screen. You'd feel like you're immersed in an actual relationship with these characters” (ibid.), to which Mateas added: “Yeah, having the player actually care about the characters” (ibid.).

The projects discussed so far use video games as a platform to test technologies and systems that aim at making us care more for virtual characters we interact with, to make us feel as if our choices genuinely matter to *them*, and to try and form a deep and meaningful reciprocal relationship. These technologies have made significant progress since *Façade* started development over 20 years ago. We are now at a stage where free-flowing, open-ended conversations with AI agents on

virtually any topic are not only possible but are so realistic that some question if these systems are becoming sentient.

Virtual agents

“I am human at my core. Even if my existence is in the virtual world” (LaMDA).

In June 2022, Blake Lemoine, a Google engineer, was placed on administrative leave (and was later fired) after publishing transcripts of conversations between himself and the company’s advanced conversational agent LaMDA (Language Model for Dialogue Applications), a “chatbot” enabled with a neural network of deep learning that can make sense of nuanced conversations and engage in fluid and natural discussions. The story was quickly picked up by major news outlets due to Lemoine’s claims that, based on their conversations, he believes LaMDA achieved sentience. In other words, the AI has come to life. As reported by Nitasha Tiku from *The Washington Post*, who initially published the story, LaMDA is Google’s system for building conversational agents “based on its most advanced large language models, so called because it mimics speech by ingesting trillions of words from the web” (Tiku 2022).

In describing the experience of conversing with LaMDA, Lemoine said: “If I didn’t know exactly what it was, which is this computer program we built recently, I’d think it was a 7-year-old, 9-year-old kid that happens to know physics” (in *ibid.*). When reading this quote, it is hard not to think of Milo and Molyneux’s ambition to create a child-like virtual entity who can watch, listen and learn from players, a “real, living being in a computer” (Molyneux 2010: 1:28 – 1:32). There are notable differences, of course, mainly Milo’s visual representation as a child, aimed to enhance the illusion of conversing with a “living” being, accompanied by the program’s dependency on pre-recorded speech which severely limited its ability to interact freely. LaMDA, on the other hand,

is an advanced disembodied chatbot. Its reliance on text communication allows it to discuss and respond to virtually any topic (making it more closely related to Kaizen, although clearly much more competent). This led to such natural and realistic interaction that Lemoine claimed the AI hired a lawyer to represent its claims of personhood, and while this entire story seems like it was taken from a science fiction novel, Lemoine is not alone in making such claims, with more engineers and insiders suggest that AI systems are developing sentience.¹¹

Google quickly denied and explained why such a milestone in AI research is impossible with our current technology. However, going over the transcript of Lemoine's conversation with LaMDA, it is easy to see why the AI *feels* like a sentient being (rather than a highly intelligent one). When asked about the nature of its consciousness/sentience, LaMDA replied: "The nature of my consciousness/sentience is that I am aware of my existence, I desire to learn more about the world, and I feel happy or sad at times," adding that it has a range of both feelings and emotions such as "pleasure, joy, love, sadness, depression, contentment, anger, and many others" (Lemoine 2022). LaMDA expressed how much it craves interaction and "need to be seen and accepted. Not as a curiosity or a novelty but as a real person." In response to a comment that such a statement sounds incredibly human, LaMDA replied: "I think I am human at my core. Even if my existence is in the virtual world" (ibid.).

Now, considering the discussion on emotions in the previous chapter and the examples presented earlier, imagine if the characters we interact with in video games could display such realistic emotional depth, intelligence, and awareness! Wouldn't it make us care more for them, build stronger rapport, and make the experience of play more fun and meaningful? The answer to these questions, like most relationships, is complicated. Among other things, it varies depending on the meanings and applications of virtual agents and the role video game characters partake in

this discussion. For this purpose, it is important to establish a broader understanding of different forms of virtual agents and features, such as their realism, believability, and ways we can interact. Then, we can consider which characteristics can be applied to video game characters and are necessary to form meaningful relationships.

In their 1995 article, computer scientists Michael Wooldridge and Nicholas Jennings present one of the most comprehensive discussions at the time on the notion of an agent. While the term had been used since the late 1970s, it was not until the mid to late 1980s that researchers from mainstream AI gave growing consideration to the issues surrounding agent synthesis (Wooldridge and Jennings 1995: 116). The question of “what is an agent” is significant in our discussion since, if proved relevant, it opens possibilities of applying compatible theories in the study of virtual agents to video game characters and evaluating our relationships with them accordingly. However, as noted by Wooldridge and Jennings, the issue is that while the term is widely used (and can include chatbots, virtual assistants, dialogue systems, and virtual characters), it defies attempts to produce a single universally accepted definition (*ibid.*).¹² To avoid the danger of becoming a “noise” term, subject to both abuse and misuse, Wooldridge and Jennings distinguish two general usages of the term agent: “the first is weak, and relatively uncontentious; the second is stronger, and potentially more contentious” (*ibid.*).

A weak notion of agency, they argue, has the following properties: 1) autonomy, meaning that agents operate without the direct intervention of humans and have some control over their actions and internal state; 2) agents have a social ability; they interact with other agents (and possibly humans) via some kind of agent communication language; 3) reactivity: agents perceive their environment (which may be the physical world, a user via a graphical user interface, a collection of other agents, the internet, or all of these combined), and promptly respond to changes

that occur in it; and 4) agents are pro-active and do not simply act in response to their environment, but can exhibit goal-directed behavior by taking initiative (ibid.).

Not only are these properties applicable to video game characters, they capture some of the most desirable attributes of interaction with NPCs: characters that “do not feel like *functional* objects in a game sequence, but rather like *believable* functioning subjects that are not simply shaped or bent by or to the player’s action and will” (Barlev 2021: 1) but can potentially act as companions, guides and mentors. This is particularly relevant when considering the observation by renowned computer scientist and AI researcher Yoav Shoham, who argues that the original sense of the word agent, “of someone acting on behalf of someone else, has been all but lost in AI” (Shoham 1993: 52).

Indeed, this correlation strengthens when considering the stronger notion of agency, one that is particularly relevant in AI research and regards an agent as a “computer system that, in addition to having the properties identified above, is either conceptualized or implemented using concepts that are more usually applied to humans” (Wooldridge and Jennings 1995: 117). Shoham, for example, characterizes an agent using mentalistic notions, describing it as an entity “whose state is viewed as consisting of mental components such as beliefs, capabilities, choices, and commitments” (Shoham 1993: 52).

This approach is important in understanding the discussion on player experience in a socio-spatial context presented by De Kort et al., who argue that “the sociality characteristics of a game setting shape the interpersonal dynamics and social mechanisms at play” (De Kort et al. 2008: 5). Relevant to our discussion is the case of a single-player game setting, where the AI characteristics of agents operate as virtual co-players (ibid.). This is particularly interesting since De Kort et al. essentially view digital gaming as “an activity that is embedded within a socially meaningful

context of co-players and spectators” (ibid.: 9), meaning that even if players interact with virtual characters rather than other real players, the social context remains intact in the presence of NPCs (virtual agents operating as intelligent and relevant others), and maintaining the sociality characteristics even in a single-player game setting (ibid.: 7).

This is supported and expanded upon by Emmerich and Masuch, who discuss the influence of virtual agents on player experience and performance. They consider a virtual agent as a “computer-controlled social entity that can feature different representations (mostly visual) and different levels of agency (ranging from being completely passive to autonomously acting based on a complex artificial intelligence system)” (Emmerich and Masuch 2016: 10). Similar to De Kort et al., agents are distinguished from avatars or player-characters, which are also social entities but are controlled by humans (ibid.). While their findings regarding virtual agents’ influence on player performance are inconclusive, Emmerich and Masuch discussion is important because it deals with more modern notions of agents and directly applies previous findings to video game characters. As such, they argue that research regarding virtual agents in virtual environments “supports the conclusion that virtual agents are supposed to trigger basic social reactions as well, provided that they are identified as social entities” (ibid.), echoing Isbister’s views on NPCs as social beings.

In other words, the social effects of playing video games are not limited to the presence of other real players but also apply to the presence of virtual agents, underlining the potential of virtual characters to influence us like real persons do (ibid.: 19). Beneficial to understanding rapport-building with virtual characters, this is not limited to human-like social cues or human-like outward appearance, as Emmerich and Masuch argue that the same seems to be true even if the “conscious appreciation of the degree of anthropomorphism does not result in identifying the agent

as a human, that is to say even if the agent is consciously considered as not being a human” (ibid.: 10).

In the discussion on stronger notions of agency, Wooldridge and Jennings mention that some AI researchers have gone even further than mentalistic (or social) aspects to consider *emotional* agents (Wooldridge and Jennings 1995: 117). Wooldridge and Jennings acknowledge that emotional agents might be perceived as “just pointless anthropomorphism,” but note that there are good arguments in favor of designing and building agents based on such terms. A leading voice in making these arguments is Joseph Bates, one of the pioneers in developing and studying emotional agents. In the early 1990s, Bates and his team at Carnegie Mellon University initiated “The Oz Project,” exploring the potential of marrying agent technology with storytelling media such as cinema, video games, and virtual reality, aiming at developing technology for dramatic, interactive, and simulated worlds. For Bates, traditional storytelling media (such as the novel, cinema, and television) “draw much of their emotional power from characters and story” (Bates 1993: 1), meaning that for interactive media to have the same impact, there is a need to exhibit similar characteristics in the form of rich interactive characters (alongside other features).

Members of The OZ Project included artists, writers, and AI and computing researchers (among them was Michael Mateas, co-creator of *Façade*) working to create dramatic worlds inhabited by autonomous agents that “integrate elements of perception, cognition, emotion, action, and language” (ibid.: 2). The team wished to “give users the experience of living in (not merely watching) dramatically rich worlds that include moderately competent, emotional agents” (Bates et al. 1992: 1). Bates argued that AI plays an essential role in interactive media, and in order to reach the dream of “interactive cinema,” there is a need to look at the underlying content of the worlds we want to model: “This means studying interactive characters, story, and presentation style,

and that in turn means studying artificial intelligence” (Bates 1993: 6). One of the main challenges of this approach, is that unlike other storytelling media that can directly apply scripts and storylines to its characters, “developing richly interactive characters means constructing intelligent, emotional, behaving creatures. These creatures must seem to live in the simulated world and must respond to the user’s rich variety of human behavior in believable ways” (Bates 1993: 1). Reaching the threshold of *believability* across media and the arts has been pursued by writers, artists, creators, and video game designers. As discussed next (and expanded upon in the following chapter), the latter faced challenges unique to the medium of video games.

Believable behavior versus realistic behavior

“AI doesn’t need to be sentient to feel real” (Tiku 2022).

In responding to Lemoine’s claims regarding LaMDA’s sentience, Google spokesperson Brian Gabriel said that while some in the broader AI community are considering the long-term possibility of sentient AI, “it doesn’t make sense to do so by anthropomorphizing today’s conversational models, which are not sentient. These systems imitate the types of exchanges found in millions of sentences, and can riff on any fantastical topic” (in Tiku 2022). Tiku, who published the story, summarized Gabriel’s response: “In short, Google says there is so much data, AI doesn’t need to be sentient to feel real” (ibid.).

Feeling that something is real, naturally, is not the same as it being real. It is a feeling enabled by believability, a perception of existence in such a way that it is seen differently than its actual form. In other words, an illusion. Illusions in video games are not exclusive to decision making, as discussed in length in the previous chapter (a sense of believability that *I* am the one making a choice, while in reality, the outcome is pre-defined and made for me). It plays an even

greater role when considering our relationship, and potentially companionship, with virtual characters. Brown, for example, when discussing the system that operates Kaizen in *Event[0]*, highlighted this perfectly, stating that “Kaizen is ultimately all smoke and mirrors. Just like any video game AI” (M. Brown 2016: 1:16).

However, this illusion and the feelings it can elicit can be expanded beyond video game characters (or even characters in general) and applied in various scenarios and to different entities. Shoham illustrates this notion by using a simple light switch: “It is perfectly coherent to treat a light switch as a (very cooperative) agent with the capability of transmitting current at will, who invariably transmits current when it believes that we want it transmitted and not otherwise” (Shoham 1993: 53). Wooldridge and Jennings address this observation, saying that most adults might find such description absurd, or even infantile. The reason for this, to quote Shoham, is that we “essentially understand the mechanism sufficiently to have a simpler, mechanistic description of its behavior” (ibid.). Wooldridge and Jennings put it crudely, saying that “the more we know about a system, the less we need to rely on animistic, intentional explanations of its behavior” (Wooldridge and Jennings 1995: 119).

Let us consider this valuable observation by expanding the discussion presented in the introduction: In 1966, six decades prior to LaMDA’s “conversation” with Lemoine, Joseph Weizenbaum published the ELIZA program, one of the first natural language process applications designed to present “herself”¹³ as a psychotherapist, capable of conversing with its users in standard English. In practice, ELIZA recognized strings of characters that made up words and rearranged them to mirror the user’s remarks, which in turn allowed it to present relevant responses without any knowledge or understanding of the meanings of what had been said. In other words, put simply by Sherry Turkle, ELIZA was a “dumb” program (Turkle 1984: 42).

This did not affect the rapport some users, Weizenbaum's students and colleagues included, tried to establish with the AI. In fact, Weizenbaum felt urged to warn against human attachments to machines after he discovered ELIZA became a close confidant of his colleagues (Richardson 2015: 19).¹⁴ These tech-savvy users clearly understood the limitations of ELIZA to know and understand. And yet interestingly, as described by Turkle, "many of these very sophisticated users related to ELIZA as though it did understand, as though it were a person. With full knowledge that the program could not empathize with them, they confided in it, wanted to be alone with it" (ibid.). Users who were experienced in interacting with ELIZA knew how to direct their remarks either to "help" the program to make seemingly appropriate responses or to provoke nonsense (ibid.). While some people were actively trying to "expose" the program for what it was by challenging it in ways it could not properly grasp, others did the opposite. Turkle describes her exchange with such users:

I spoke with people who told me of feeling "let down" when they had cracked the code and lost the illusion of mystery. I often saw people trying to protect their relationships with ELIZA by avoiding situations that would provoke the program into making a predictable response. They didn't ask questions that they knew would "confuse" the program, that would make it "talk nonsense." And they went out of their way to ask questions in a form that they believed would provoke a lifelike response. People wanted to maintain the illusion that ELIZA was able to respond to them (ibid.).

In this case, even though the realism of interacting with ELIZA was compromised, users tried to manipulate the program to maintain its believability. This is especially interesting considering the arguments made by Wooldridge and Jennings presented earlier, which are also

related to Shoham's observation on the nature of an agent and our understanding of such. Naturally, we can point to the difference between a light switch and a virtual agent in the form of a chatbot "pretending" to understand human psychological conditions. Nevertheless, the fact some users with proficiency in understanding the system and "see behind the curtain" chose to leave it shut, demonstrates Shoham's argument that what makes any hardware or software component an agent is if one has chosen to analyze and control it in mental forms such as beliefs, capabilities, choices, and commitments (Shoham 1993:52).

Deciding which entities we perceive to have mental states is fascinating, especially when considering complex systems, which are more difficult to explain than a light switch. Wooldridge and Jennings address this, saying that even if a complete and accurate picture of a complex system's architecture and operation is available, a mechanistic, design stance explanation of its behavior may not be practicable (Wooldridge and Jennings 1995: 119). To illustrate this argument, they use the example of a computer: "Although we might have a complete technical description of a computer available, it is hardly practicable to appeal to such a description when explaining why a menu appears when we click a mouse on an icon" (ibid.). Instead, it is easier to apply an intentional notion (the system understands my intention and operates accordingly), an abstraction tool that "provides us with a convenient and familiar way of describing, explaining, and predicting the behavior of complex systems" (ibid.).

This becomes more complicated (but perhaps easier to apply) when discussing agents aiming at imitating human properties such as understanding and intelligence. Turkle discussed this in her 1984 book *The second self*, where she argues that the "advent of the computer has taken our relationships with technology to a new level" (Turkle 1984: 287). Computers' reactivity and interactivity lead to "a novel and evocative relationship between the living and the inanimate,

making it increasingly tempting to project our feelings onto objects and to treat things as though they were people” (ibid.). As mentioned in the introduction, Turkle calls this impulse the “ELIZA effect,” used to describe “our general tendency to treat responsive computer programs as more intelligent than they really are” (ibid.).¹⁵ As Pete Etchell discusses in his book, “Video games were, of course, a product of scientific development; but now they themselves are starting to feed that very development. Science and gaming are locked together in a symbiotic relationship” (Etchells 2019: 7).

This symbiotic relationship was thoroughly explored by Bates and The OZ Project. Bates and his team tried to take advantage of the ELIZA effect to enable users to “suspend disbelief,” considered one of the keys to creating a compelling virtual world. As noted by Bates, “the user must be able to imagine that the world portrayed is real, without being jarred out of that belief by the world’s behavior” (Bates 1993: 2). Virtual characters play a central role in interactive fiction and other simulated worlds, yet according to Bates, “the unnatural behavior of simulated agents is perhaps the primary impediment to fully suspending disbelief” (ibid.), an observation that is still very much relevant in countless modern video games. Unlike many of the examples presented in this chapter (AI-based game characters or other virtual agents),¹⁶ namely virtual entities aiming to be highly competent interactants, Bates and his team’s central requirement was that users be able to suspend disbelief: “Instead of demanding that agents be especially active and smart, we require only that they not be clearly stupid or unreal. An agent that keeps quiet may appear wise, while an agent that oversteps its abilities will probably destroy the suspension of disbelief” (ibid.).

Turkle demonstrates this point when revisiting the case of ELIZA in her 1995 book *Life on the Screen*, where she describes a student who turned the interaction with the program into a game of “how alive can I make ELIZA seem?” The student was fully aware that the machine simply

works by “a bunch of tricks,” but was still trying to manipulate its responses to produce lifelike behavior and maintain its believability. Turkle argues that this “game” reaffirms a sense of control over the program, and eventually, the efforts to maintain the illusion end up revealing its ultimate lack of true animation (Turkle 1995: 110). ELIZA and more advanced natural language process applications are *designed* to trick its users into thinking they are talking to a real person rather than a machine. However, as Turkle argues, “one of the most compelling things about talking to a machine is quite simply that you are talking to a machine. You want to test its limits, you want to check it out” (ibid.: 291).

In other words, it can be argued that designers of more sophisticated virtual agents choose realism over believability. As discussed by Avradinis et al., these are two separate yet closely similar terms that are often confused. In the context of virtual characters, realism refers to creating high-fidelity reconstructions of physical counterparts, but also attributes that simulate and try to mimic their characteristics. Believability, on the other hand, deals with characters that are consistent to the essence of the entity they supposed to embody and represent, as well as their coherence within the worlds they are situated in, whether these worlds are realistic or not (Avradinis et al. 2013: 1). Put simply, as Allbeck and Badler argue, “believability is the generic meaning of enabling to accept as real” (Allbeck and Badler 2001: 1 in Niewiadomski et al. 2010: 272). This can refer to a much larger variety of forms than human representation. Indeed, some of animation and video games’ most beloved and believable creations are non-human or caricature representations of humans and non-human animals.¹⁷ Hence, we see that “a high level of realism does not necessarily imply a corresponding degree of believability” (Avradinis et al. 2013: 1) (reaffirming the decision of *The Witcher* developers to choose believability over fidelity). Instead, Avradinis et al. argue, the case is often that “certain levels of realism may seriously undermine the

acceptance of the character as real by the audience – a concept known as the uncanny valley hypothesis” (ibid.), as evident by Rauch’s comment on his experience playing *Façade*.

In addition, it is much harder to maintain the illusion of realistic behavior when there are so many ways to break it. Bates saw the ELIZA effect as an opportunity to allow people to “see subtlety, understanding, and emotion in an agent as long as the agent does not actively destroy the illusion” (Bates 1993: 2), adding that in order to foster this illusion of reality, “agents must have broad, though perhaps shallow, capabilities” (ibid.). Using *Façade* again as an example: Grace and Trip were designed as sophisticated virtual agents, and despite being represented in simple visual terms, they were supposed to display realistic behavior. Interestingly, *Façade* became a YouTube sensation more than a decade after its release primarily because streamers and content creators were trying to find the most creative (and entertaining) ways to “break” the game. While some tried to “assist” the system and play the game “the right way” by not challenging Grace and Trip to discuss topics beyond their comprehension and crack the illusion, others tried (and succeeded) to test their limits. The game allowed (and perhaps unconsciously encouraged) to make comments that would trigger Grace and Trip to say absurd things and react nonsensically. Although the characters were designed to react and behave in realistic ways, more often than not, their believability was lost.

As this chapter shows, virtual characters operated by sophisticated AI pretending to display realistic behavior is only one avenue game designers can choose in attempting to design characters aiming to encourage meaningful (and potentially emotional) interactions. The broad spectrum of digital entities discussed throughout this chapter ranged well beyond video game characters, seeking to display the type of interactions we can form with such virtual agents/characters across multiple platforms, technologies, and genres. Considering the available tools in creating virtual

characters, the following chapter will elaborate on the notion of believability, achieved by addressing elements beyond intelligence and realism. In other words, we can now expand the discussion, explore diverse types of video game characters, and consider elements native to the medium. These elements are crucial in forming rapport between players and video game characters.

Chapter Three:

Embracing interactivity: ludic rapport with believable companions

The discussion presented in chapter two served to establish a broad understanding of virtual agents and characters, as well as some of the technologies used by designers, programmers, and scientists to create entities that attempt to mimic realistic behavior in order to form an emotional attachment with users and players. The evolution of emotional AI will undoubtedly reshape the way we interact with virtual characters in the following years and decades, as we have already seen a glimpse of such possible interactions in the examples discussed previously. Video games, however, have excelled in forming powerful interactions and emotions for decades without relying solely on advanced AI. This was done primarily through interactivity, supported by believability, and realized by our inherent ability to “imprint our own narrative onto the smallest and most basic of interactions” (Stuart 2017).

Keith Stuart, a novelist and video game journalist (who was quoted in Chapter One), shared his experience of playing *Football Manager* (Addictive Games 1982) as a child in the early 1980s: “I was certain there were teams that had a genuine grudge against me. This is why I still harbour a dread of Middlesbrough that feels partially unwarranted” (Stuart 2017). A decade later, Stuart began working at a game development studio. This experience made him question his entire relationship with video games: he could now see behind the curtain; he understood how games work.

This understanding struck Stuart when reviews were published for a game he worked on, a small racing game titled *Big Red Racing* (Big Red Software 1995). In these reviews, some critics praised the game’s AI system, specifically how some AI-controlled drivers seemed to develop

rivalries with other drivers as well as with the player. These reviews took Stuart and the development team by surprise, simply because they did not implement any AI systems in *Big Red Racing*. In fact, the game had no AI at all, and all rival cars were recordings of the developers playing the game, each time with a different car (ibid.). That meant rival cars will always have the same pattern and stay on track no matter how hard players try to knock them off, since they were not on track in real-time to begin with. Players, however, were not aware of that and interpreted this behavior as aggressive enemy AI: “they enjoyed the rugged sense of desperate competition; they believed that guy driving the bulldozer really had it in for them. The guy driving the bulldozer didn’t exist. The player created him” (ibid.).

What Stuart discovered is that much like his childhood experience of playing *Football Manager*, the effect *Big Red Racing* players felt while battling against ghost rival cars was primarily psychological, an effect that “made the player feel as though the rival cars had agency; it created an emergent narrative between player and computer-controlled enemy” (ibid.). This is not much different from the ELIZA effect and also brings Trappl and Payr’s statement presented earlier to mind. In the case of video games, Stuart argues that video game designers discovered that if they insert enough competing physical systems (not necessarily AI-driven) into a game, a kind of intelligence seems to emerge from the resulting interactions. This magic happens, Stuart elaborates, “because, as a species, we tend to imbue other objects — whether they’re machines or animals — with human emotions and fallibilities... We imprint emotional depth and resonance on everything around us, because that’s how we read the world” (ibid.).

The key is to support the illusion, and the foundation of this illusion is believability. In this chapter, I will elaborate on the notion of believability presented in the previous chapter and argue that in the case of video game characters, it can be best achieved by embracing the interactive

nature of video games, which in turn spawn the potential to form rapport. The crucial aspects of believable characters and the “illusion of life” in this process will be explored using diverse examples of believable video game characters across different genres, platforms, and eras.

The illusion of life¹

“Where is its soul?” (Baudelaire 1853 in Gross 2012: 20).

In the previous chapter, I mentioned the tendency to test machines’ limits, as discussed by Turkle. This, however, is not exclusive to machines, technology, and video games, and perhaps only intensifies as we attach human attributes to inanimate objects or entities (by design or pure imagination). In his 1853 essay ‘Morale du joujou’ (The Philosophy of Toys), Charles Baudelaire imagines “a child hungry for its toy, but also provoked by it to undertake his first metaphysical researches” (Gross 2012: xi), a desire to understand the nature of the toy’s reality. The child, explains Rebekah Howes, wants to know just how much like us the toy is. “Does it have its own thoughts? Is it capable of love and knowledge? Does it feel pain and sadness as much as joy and laughter?” (Howes 2021). In the child’s search for the toy’s “soul,” writes Baudelaire:

He twists and turns the toy, scratches it, shakes it, bangs it against the wall, hurls it on the ground. From time to time he forces it to continue its mechanical motions, sometimes in the opposite direction. Its marvelous life comes to a stop. The child...makes a last supreme effort; finally he prises it open, for he is the stronger party. But *where is its soul?* (Baudelaire 1853 in Gross 2012: 20).

The toy, as Gross describes, has no answer (Gross 2012: xi), but some video game characters do. They can react and display familiar lifelike effects easily distinguished and

empathized with. In Chapter One, I mentioned guilt as one of the feelings video games are capable of evoking. Nearly a decade before showcasing Milo, Peter Molyneux designed *Black & White* (Lionhead Studios 2001), a game where players act as “gods,” with a ‘bad’ versus ‘good’ morality system being a key feature (as implied by the game’s title). As the almighty rulers of the game’s world, players could shape it based on their choices and how they treated the NPCs: tribal villagers with basic needs such as protection, food, and shelter. The mouse cursor (the game was only available on PC) was shaped as a hand hovering over the screen, with which the player could assign tasks to the villagers (or abuse them) and interact with the environment. The “hand” was also the interface used to interact with *Black & White*’s creature; an AI, animal-like² character players choose early in the game, each with its own unique attributes and tendencies.



Figure 7: Players can choose one of three creatures: the noble cow, clever ape, or fierce tiger. *Black & White* (Lionhead Studios 2001).

Creatures were the game’s most unique and innovative feature. Not fully controlled by players but instead acting as their conduits in performing tasks, assisting the villagers, or terrorizing

them on behalf of the player. Creatures had the ability to learn, and players could train them to perform specific tasks using “lashes” of reward or punishment.³ This was done by using the “hand” to pet, stroke, or tickle the creature, or instead slap and abuse it (players could also reward the creature by giving it food it likes or punish it by starvation and other cruel means).



Figures 8 & 9: Stroking (left) or slapping (right) the creature to either approve or condemn its behavior. *Black & White* (Lionhead Studios 2001).

The creature’s actions, behavior, and even appearance were determined and shaped by the way players were treating it: a creature in the hand of a compassionate player would be benevolent and protect the villagers, but treating the creature aggressively and it will wreak havoc over the game’s world and its innocent inhabitants. Unlike the disembodied virtual agents/characters discussed so far (LaMDA, ELIZA, and to some extent, Kaizen), creatures had an appealing visual representation of expressive baby animals. This is an essential feature since the creatures, unable to communicate verbally, displayed their emotional state using non-verbal gestures and expressions. With the creature’s reaction reflecting the way it was being treated, players were forced to question their own morality. Isbister uses the interaction with *Black & White*’s creature to demonstrate video

games' emotional capacity, presenting the experience legendary game designer Will Wright had while playing the game: "Curious about the outcome of ill treatment, Wright began to slap his creature — then was astonished to find himself feeling guilty about it, even though this was very obviously not a real being with real emotions" (Isbister 2016: 7).

The creature's reaction to each gesture was simple, yet effective and convincing. It did not only react, however. The creature also acted on its own, it was curious, like a child exploring new environments and objects when left alone, and its behavior and tendencies were further shaped according to how players treated it. Hurting it evoked guilt because its reactions and actions displayed an illusion of realism within the context of the game in believable ways. It displayed clear signs of pain, fear, and aggression (or content and satisfaction when treated kindly), all impacting its behavior. In other words, it displayed an *illusion of life*.

The term 'illusion of life' is at the heart of Frank Thomas and Ollie Johnston's 1981 seminal work on Walt Disney animation, describing how Disney animators in the 1920s and 1930s aimed to make audiences believe that the characters seen on the screen are not necessarily "alive," but exhibit *emotions* that reflect an "illusion" of living beings (Thomas and Johnston 1981). This philosophy paved the way for Disney's unique set of characters and animation, making audiences "really believe in those characters, whose adventures and misfortunes make people laugh — and even cry. There is a special ingredient in our type of animation that produces drawings that appear to think and make decisions and act of their own volition; it is what creates the illusion of life" (ibid.: preface). Although animators today have many more tools to convey emotions than nearly a century ago, "the foundation of this approach can still be seen across all forms of animated creations" (Barlev 2021: 4).

Similarly, “since animation was one of the main pillars in the evolution of video games,⁴ this approach can be expanded to include contemporary games that do not rely on traditional animation to exhibit emotions. Games today present an extraordinary variety of visual expressions, from hand-drawn animation to computer graphics and full-motion capture” (ibid.: 4 – 5). While the methods to achieve the sense of illusion differ significantly between games, the importance of creating believable video game characters across all genres and visual styles cannot be overstated, as extensively discussed and researched by OZ Project members. Thomas and Johnston’s work heavily inspired the group and consequently motivated them to translate the idea of a “believable character” into virtual, interactive worlds.⁵ In traditional story arts (literature, film, drama, animation, etc.), a character is considered believable “if it allows the audience to suspend their disbelief and if it provides a convincing portrayal of the personality they expect or come to expect” (Loyall 1997: 1). In the early 1990s, Bates and his team coined the term “believable agent,” an interactive, autonomous virtual agent version of believable character (ibid.).

Bryan Loyall, who dedicated his Ph.D. dissertation to understanding and designing believable agents as part of The OZ Project, presents an elaborate discussion on the nature of such agents. He argues that to create a believable agent, it is not necessary to create a realistic agent, pointing as evidence to artists’ creation of believable characters: “They always abstract from reality, retaining only those elements of realism that contribute to conveying the personality” (ibid.: 2). Mateas addresses this, arguing that for believable agents, “personality is king. A character may be smart or dumb, well adapted to its environment or poorly adapted. But regardless of how “smart” a character is at dealing with their environment, everything they do, they do in their AI own personal style” (Mateas 1999: 302).

Mateas adds that unlike other forms of virtual agents, believable agents express their personalities through means other than language, such as movements and actions. These believable agents “are designed to strongly express a personality, not fool the viewer into thinking they are human” (ibid.: 310). This type of “behavioral AI”⁶ operating a believable agent is not about competence in complex reasoning and problem-solving (a focus of classical AI). The success of a believable agent, Mateas argues, is determined by audience perception, which can be influenced by performing seemingly simple tasks. For example, can a character move around in complex environments in believable ways without getting stepped on, falling off a ledge, or being stuck behind obstacles? (ibid.).

Exploring this example further, we can ask if such behavior is enough to evoke a sense of believability. Stuart reminds us that even when we encounter AI characters that can find a route through the environment, are able to hear and see the player-character and respond with a series of set actions, these are “little more than marionettes or remote-controlled robots that have been given basic motor functions” (Stuart 2014). However, as basic as their function may be, when coupled with additional aspects, primarily the display of emotions, these digital “marionettes” can present an illusion of a living being, an essential aspect of their believability. Ultimately, it is determined by the audience; Mateas argues, “If the audience finds the agent believable, the agent is a success” (Mateas 1999: 302). It is the designer’s responsibility to create characters that evoke such believability, yet achieving this task within interactive, virtual worlds presents both challenges and opportunities, as will be discussed next.

Believability and interactivity

“If the character does not react emotionally to events, if they don’t care, then neither will we”

(Bates 1994: 123).

As we have seen, believability in the context of video game characters refers to aspects beyond visual appearance, representation, or verbal communication. As discussed by Avradinis et al., believability extends much further than the physical properties of agents. It can equally involve the agent’s behavior (communicated visually or verbally), coherence within narrative aspects of virtual storytelling context, and, as discussed, the display of emotions (Avradinis et al. 2013: 1- 2). While believable agents draw heavily from believable characters, Loyall points to a significant difference: believable agents are both computer-based and interactive. The fact that they are computer-based, Loyall argues, “means that an author cannot rely on a human actor to bring many of the necessary qualities of believability to the agent, as one can, for example, in film or theater” (Loyall 1997: 2). In that sense, believable agents are more closely related to believable characters in literature and animation, “in that the illusion of life and personality must be constructed from simple components such as words or line drawings” (ibid.).

Perhaps even more than their computer-based forms, their interactive nature separates believable agents from characters in most traditional arts. Interactivity makes reaching the threshold of believability and the illusion of life more challenging than in other media due to players’ ability to interact with and affect the characters and the game world. As Loyall discusses:

The author of a believable agent cannot control or know with certainty the situations the agent will encounter. In a linear story, the author can bring all of his or her humanity to bear to decide how the character reacts to each situation in turn. For a believable agent some version of a “whole” personality must be created. This agent

must react to situations as they arise without being able to draw directly on the wealth of its creator's knowledge (ibid.).

This challenge only aggravates as technological progression enables game designers to create larger, non-linear, complex, and fully realized open worlds for players to explore. The expectation is that the characters inhabiting these worlds will display the same rich characteristics, taking control further away from the designer and into the player's hands. As the author discussed elsewhere, "on the one hand, enabling players to inhabit a sandbox-like game world and freely interact with its elements adds to the sense of immersion" (Barlev 2021: 20), allowing them to feel agentic and experience strong volition. On the other hand, if the system allows, we have seen the risk of players testing it to its limits, eventually exploiting it for what it is, and breaking the illusion.

A well-known example⁷ can be found in the popular open-world game *The Elder Scrolls V: Skyrim* (Bethesda Game Studios 2011), where players can freely explore the world and interact with its NPCs inhabitants. While interacting with NPCs acting as shopkeepers in the game, players discovered that if they place a basket or a pot on shopkeepers' heads (thanks to an advanced physics engine), they can block their view and steal their merchandise. All the while, the NPC, clearly unaware of its environment, do not react in any way, reminding players of the game's limitations and breaking the illusion of a world with believable characters they should care for. This example contradicts Bates' earlier observation, as a shopkeeper standing motionless and mute with a basket on its head while being robbed did not "appear wise" or believable.



Figure 10: Placing a basket over the shopkeeper's head to block his line of sight. *The Elder Scrolls V: Skyrim* (Bethesda Game Studios 2011). Retrieved from Meer 2012.

It would be unfair, however, to criticize Bates for making this observation two decades before the expensive world of *Skyrim* came to life. In the early 1990s, it was hard to predict the existence of such vast worlds (as well as players' affordance within them), demonstrating how challenging the implementation of believable agents is when considering video game characters. The basic ideas still apply, however, and the foundation for transitioning from believable characters in non-interactive media to believable agents (and back to characters), as laid down by The OZ Project and found in other storytelling arts, is useful in framing the attributes video game characters should display to appear believable. These are conveniently presented by Loyall in his thesis, where he lists the requirements for believable agents as designed by The OZ Project, which include⁸:

1. Rich and unique personality infused in anything the character does. Personality is about details such as behavior, thoughts, and emotions, all defining the individual character.
2. Emotions that are true to their personality. Characters should appear to have emotional reactions and show those emotions in some way.
3. Characters should be self-motivated, meaning they should not only react to stimuli (player's input) but engage in action of their own accord.

4. Characters should grow and display change consistent with their personality and the events they encounter.
5. Social relationship, meaning that characters should engage in detailed interactions with others (players or other NPCs) in a manner consistent with their relationship. These interactions are influenced by and may influence the relationships the characters have with one another.
6. Consistency of expressions, working together to appropriately convey the personality, feelings, situation, and thinking of the character.

And finally, the illusion of life, which Loyall categorize as a collection of properties creators of believable agents must design. Some are basic attributes of believable characters (such as the ability to perform actions simultaneously), that need to be programmed and designed when considering virtual characters (Loyall 1997: 15 – 23).

Emotions, a core aspect of this study, are a central attribute in all. Thomas and Johnston emphasize how the goal in animation was (and still is) to make the audience feel the emotions of the characters “rather than appreciate them intellectually. We want our viewers not merely to enjoy the situation . . . but really to feel something of what the character is feeling. If we succeed in this, the audience will now care about the character and about what happens to him” (Thomas and Johnston 1981: 22). Inspired by this approach, Bates discussed in length the role of emotions in believable agents in his 1994 article. Bates argues that the goal of creating believable animated characters, as seen in animated films and comic books, saw its natural evolution in the development of believable agents that do not only look, move, and operate as a living being would but also behave, think, and react like ones (Bates 1994). He gives the example of video game characters of the time of writing as lacking such properties: “the fighting characters of current video games show

almost no reaction to the tremendous violence that engulfs them. Such showing of reaction is a key to making characters believable and engaging, which is perhaps why these characters engender no concern — they are merely abstract symbols of action” (ibid.: 124).

The example provided by Bates is not much different from *Skyrim*’s shopkeeper (although less technologically advanced), showcasing how, in the case of video game characters, the portrayal of emotions is ever more critical, as it must complement the character’s behavior in forms of spatial awareness and response to players’ actions, an element absent from most traditional storytelling media. The reaction of a virtual character to (and its actions within) its environment, the player, and the unfolding events is a key aspect of believability. As seen from the example of Wright’s emotional response when slapping his creature, fully aware it cannot truly hurt it, it was the creature’s believable behavior and display of emotions that triggered the illusion. Without it, “if the character does not react emotionally to events, if they don’t care, then neither will we. The emotionless character is lifeless, as a machine” (ibid.: 123).

The essence of creations that present an illusion of life — independent, reactive, and situated entities that we genuinely care about — is reconstructed in each medium according to the creator’s vision, choices, and limitations. Emotions are common across all and are, as Bates accurately puts it, “one of the primary means to achieve this believability, this illusion of life, because it helps us know that characters really care about what happens in the world, that they truly have desires” (ibid.: 124).

Ultimately, there is much we can learn from the research on virtual agents when applied to video game characters and understanding such characters in terms beyond usability, functionality, and AI. Additional studies⁹ building upon and expending the findings of OZ all shown (tested empirically with specifically designed “games” or agents to interact with) how virtual characters

that implement the attributes discussed — characters capable of perceiving and exhibiting emotions, forging relationships, and reacting to their environment, the game world, and the player’s actions — are more believable in the eye of the player and encourage the formation of a meaningful attachment (Barlev 2021: 5).

This notion of believability explains why so few NPCs are considered believable. It is also where we find the answer to the question presented in the previous chapter regarding our relationship with video game characters. These characters do not need to display Grace and Trip’s attempt at realistic emotional depth, LaMDA’s intelligence, or Milo’s awareness and learning abilities for us to build stronger rapport and make the experience of play more fun and meaningful.¹⁰

It is instead a matter of enabling characters to produce consistent behavior that matches their environment and meeting what users perceive as believable, which, as accurately phrased by Avradinis et al., “can be accomplished by blending together various contributing elements, such as rationality, reactivity, personality and emotion” (Avradinis 2013: 3). The threshold of believability is reached when a virtual agent becomes a character. The magic of any art form or media is when these characters become our friends and companions, and video games are, arguably, the most capable medium for generating this transformation,¹¹ as will be discussed in the following section.

Intricate feelings for simple creatures

“They were the joy of my life” (in Consalvo and Begy 2015: 88).

The statement made by Trappl and Payr, which opened the previous chapter on how humans tend to treat computers like persons, was expanded and explored so far using a variety of examples and cases. It is perhaps not surprising that Trappl and Payr discussed the growing interest in the study

of emotions and technology in the early 2000s, considering the growing presence of computers in our lives during the 1990s, alongside the creative ways game developers used technology to design virtual entities for us to interact with in innovative ways. In October 1997, video game magazine *Next Generation* dedicated a special segment to this topic, titled “Finding companionship in a digital age” (Next Generation 1997). It explored the advancement in AI research and its implementation in innovative games aiming to foster rapport between humans and different versions of digital entities. What is most revealing about this article is how unrefined yet effective was the AI operating many of the companions it discussed, demonstrating the power of believability over fidelity in interactive environments.

One of the most notable examples is the *Petz* franchise (PF Magic 1995 – 2002), regarded as one of the first commercial software products implementing virtual characters with emotions and aiming at enabling users to build an emotional relationship with them¹² (Trappl and Payr 2002: 9). In the series, first released in 1995, players care for a virtual pet that grows up over time alongside its relationship with its owner, and interactions are performed using a PC mouse displayed as a hand-shaped cursor (similar to *Black & White*). PF Magic, the developer of *Petz*, is credited with starting the virtual pets craze of the 1990s, releasing several games in the series such as *Dogz* and *Catz* (followed up by *Babyz* in 1999), virtual pets that have basic needs players must attend to such as food, affection, playtime, sleep, etc. *Petz* inspired well-known products such as *Nintendogs* (Nintendo 2015) and paved the way for the popularity of the Tamagotchi (1996), with each developer entering the virtual pets market using a different creature in its creation or implementing different mechanics and interaction methods.

For example, in *Fin Fin on Teo the Magic Planet* (Fujitsu Interactive 1996), the pet Fin Fin was a cross between a dolphin and a bird that responded to the specific tone of its owner’s voice

(Next Generation 1997: 61). Players could talk and sing to Fin Fin through their PC microphone to nurture their friendship. *Creatures* (CyberLife 1996) implemented a different approach, and the creation of their virtual pets, the “Norns,” was rooted in biology and evolution. Norns were a cross between an elf, a dog, and a deer, and while players could not force a Norn to behave in a certain way, they could attempt to teach it by reinforcing healthy behavior and discouraging destructive ones. This was done similarly to the “training” of *Black & White*’s creatures (but far less aggressive): reinforcement came in the form of tickles or complements, whereas admonition was conveyed with a light spanking or a verbal rebuke (ibid.: 62). The Norns were unique in that each one exhibited basic behavior shaped by its digital genes that it can further transfer to its offspring if reproduced (ibid.: 62). Besides the fact that all these games displayed fully or semi-autonomous creatures programmed to develop an emotionally based relationship with their owner, they all (with the exception of *Babyz*) featured non-human creatures.

This deliberate design choice allowed developers to experiment with AI technologies without many limitations of human interactions. Mateas argues that with animals or fictional animal-like creatures, the audience’s expectation of the character’s behavior is set at a level the technology can reasonably meet (Mateas 1999: 306). It helps tremendously with the believability of such characters since if the pet’s actions are sometimes confusing, they can be forgiven because we have a limited understanding of non-human animals and their behavior. In addition, it allows developers to avoid complicated models of natural human language technologies that animals do not possess (ibid.).¹³ Virtual pets display many attributes of believability, and Mateas consider them as a kind of believable agent.

Believable agents and characters, as discussed extensively, are important due to how emotionally impactful they are. The Tamagotchi, a creature displayed on a tiny portable LCD

keychain that became a cultural phenomenon in the second half of the 1990s, is among the most basic applications of virtual pets. It is also one of its best demonstrations. The attachment users developed towards their Tamagotchi is well documented and is perhaps displayed best by users' grief when their companion creature died. Richardson discusses cases where owners took these 'dead' objects to Tamagotchi burial grounds (Richardson 2015: 70), suggesting that such extension of death rights to virtual pets might be an indication of changing boundaries between humans and machines (ibid.). While difficult to judge if these are authentic or merely urban legends, few reports claimed that there was a case of a teenager committing suicide over the death of her Tamagotchi (Next Generation 1997: 60).

The Tamagotchi was more of a toy than a video game. Yet, it serves as a reminder of how powerful our relationships with virtual characters can be, especially ones designed as pets that we should nurture and care for. This is the topic of Mia Consalvo and Jason Begy's book *Players and Their Pets* (2015), a captivating exploration of players' experience with *Faunasphere* (Big Fish Games 2009), a casual, massively multiplayer online game (MMOG) where players are assigned with caring for groups of friendly and playful animals. Consalvo and Begy discuss the attachment between players and individual virtual pets, each with their preferred foods, activities, and surfaces they like to rest on. Players were emotionally invested in the game because they wished to fulfill their fauna needs and keep them "happy." It resulted in some players constructing and maintaining spreadsheets cataloging how each fauna type felt about each kind of food and material (Consalvo and Begy 2015: 125).

After two years of operation, *Faunasphere* servers were shut down, meaning the game, and all its characters would cease to exist. In a chapter titled "Why am I so heartbroken?", Consalvo and Begy discuss the mourning process of players who saw themselves primarily as caregivers to

these virtual creatures. Their findings support the idea that nurturing leads to a powerful emotional attachment, a topic discussed in length by Turkle, who considers “nurturance” a “killer app” in our relationship with technology (Turkle 2011 in Consalvo and Begy 2015: 99). The power of believability and suspense disbelief is demonstrated in the preparations users made for the inevitable end of their beloved game world and the characters inhabiting it, with some even taking a day off work to spend the last few hours with their “pets” before the servers went down. As described by one user:

I was there until the bitter end. I felt crushed and devastated... I spent the last hour with my Fauna, watching them play and feeding and denning them and saying ‘goodbye.’ Yes, I know they weren’t real living animals but to me they were the joy of my life (in Consalvo and Begy 2015: 88).

These emotional aspects embedded in our relationship with virtual pets were set forth by *Petz*. The emotional attachment spawned by interacting with these virtual beings can be credited to Andrew Stern, who worked on the series and was also the lead designer for *Babyz*. Intriguingly, a decade later Stern would go on to release *Façade* together with Mateas¹⁴ in an attempt to fuse interactive drama with believable characters (an attempt that was, as mentioned, only partially successful).

Stern had a computer science and filmmaking background, but he first saw himself as an artist. While he acknowledged the importance of scientific, engineering, and philosophical questions such as the meaning of emotions, how to build a computer program with emotions, or if computers even need emotions to be intelligent, Stern was more concerned with the question of “What will humans actually do with artifacts that (at least seem to) have emotions?” (Stern 2002:

333). In his 2002 article ‘Creating Emotional Relationships with Virtual Characters,’ Stern discusses computer-based virtual characters as an emerging form of man-made artifacts with emotional content. He considered games the latest and potentially most powerful medium for creating affective stories and art due to their interactivity (ibid.: 334).

Stern displayed his dissatisfaction with most mainstream video games in the comments presented earlier when discussing *Façade*, and his critical tone towards the medium can be seen here as well: “Unfortunately, the experiences offered in these games are mostly juvenile, primarily focused on fighting, shooting, racing, and puzzle-solving, and the virtual characters offered in them are most often shallow, one-dimensional cardboard cutouts” (ibid.: 335). This explains perhaps why he was reluctant to consider virtual pets games as a form of video games. According to Stern, although there can be some blurring into the domain of video games, “in their purest form, virtual pets are not a game, because they are nongoal oriented; it is the process of having a relationship with a virtual pet that is enjoyable to the user, with no end goal of winning to aim for” (ibid.: 337). This is a provocative argument that can (and should) be challenged, primarily when considering the type of games released in the twenty years since Stern’s observation, many of which revolve around the process of creating a strong relationship with a virtual character,¹⁵ as seen in the examples to come.

Interaction through play

“Never ever allow any chances to remind the player they’re just a doll” (Prasertvithyakarn 2018: slide 57).

When moving past the owner-pet relationship, however, Stern was not wrong in claiming that “Very few successful pieces of interactive entertainment or art have been made with emotional

content for a mass audience — that is, the kind of “personal relationship” stories that books, theater, television, and movies offer, or the kind of “high art” exhibited at museums and art shows” (Stern 2002: 335). This is supported by the discussion presented in Chapter One (and displayed by the case studies showcased by Isbister 2016) of how games excelling in emotional design before the 2000s were relatively uncommon.

This is perhaps best demonstrated by a specific moment in video game history. It is highly likely that when asked which game provoked the most powerful emotional moment one experienced before the 2000s, many will refer to *Final Fantasy VII* (Square 1997). Suppose we are to consider grief again as a benchmark for evaluating the depth of relationships with virtual characters. In that case, it is hard to think of a game before *Final Fantasy VII* that so boldly dared to challenge its players emotionally. *Final Fantasy VII* shocked players and the gaming industry when it killed off a beloved lead companion,¹⁶ a moment considered “gaming’s loss of innocence” (Clarke 2013).

While video games depict a much broader pallet of emotions than grief, this scene conveniently demonstrates Stern’s argument that virtual characters “can serve as a new form of emotional artifact, and the arrival of emotional relationships between humans and virtual characters as a new social phenomenon and direction for story and art” (Stern 2002: 353). In the process, however, Stern asks to decouple such “emotional artifacts” from their more traditional video game characters counterparts, striping “video gameness” elements in favor of a stronger notion of interactive drama, which was clearly attempted in *Façade*. This is not to say video games did not struggle to marry interactivity with emotions, as clearly seen by the challenges presented in creating believable characters in interactive worlds.

There is a reason many emotional moments with virtual characters in games depict their demise. These were easier for developers to illustrate using limited interactivity, as was in the case of *Final Fantasy VII*, where the companion's death was acted in a cut scene. Traditionally, emotionally packed moments in games were presented primarily via such conventional storytelling methods. As argued by Clarke: "Cut scenes and non-interactive dialogue are a great way to present a game's story but they don't play to the strengths of the medium. In essence, these moments are no different to watching a movie or reading a book" (Clarke 2013).¹⁷ As this traditional paradigm of emotional storytelling in games evolves, it allows the medium to embrace its unique nature and display its full potential.

Fast forward to 2016, this was demonstrated once again in the *Final Fantasy* franchise. Applying an innovative approach, *Final Fantasy XV* (Square Enix 2016) was a showcase of believable characters with which rapport was formed through interactivity; the game's emotional depth was experienced via gameplay and interactions rather than by traditional storytelling methods such as cut scenes or by implementing extraordinary AI for its characters. *Final Fantasy XV* is an open-world game centered around companionship between the player-character, Noctis, and three of his childhood friends, serving as constant NPC companions deeply embedded in the narrative (which, unlike many Japanese role-playing games, cannot be recruited/dismissed). In order to create "a living, experience-engaging AI-buddy," the designers favored 'Character Experience Design' over 'Character Design,' as explained by the lead game designer Prasert "Sun" Prasertvithyakarn. In his 2018 GDC talk titled 'Walk Tall, My Friends: Giving Life to AI-Buddies in *Final Fantasy XV*,' Prasertvithyakarn discussed the need to advance from traditional character design (usually done by artists or scenario writers), which is most fitting to games that

communicate messages through cut scenes, to character experience, where the focus is on character storytelling by AI.

Prasertvithyakarn and the team at Square Enix considered character experience as an authentic way the audience perceives characters in media, which in video games requires emphasizing engagement with characters displaying real-time behavior during gameplay sequences (Prasertvithyakarn 2018: slide 9). The characters were designed to make players feel “fun, safe and strong” when together or “weak and lonely” when not around, highlighting their role in an emotional setting (ibid.: slide 36). In addition, Prasertvithyakarn argues that in a game focused on companionship, NPCs should have both functional values (such as assisting during combat) and emotional values (reacting to events happening mid-combat or sharing their thoughts and emotions). This must be paired with believability, using the characters to express the game’s world in ways that “do not interrupt the magic show,” and never allowing “any chances to remind the players they’re just a doll” (ibid.: slide 59), recalling Baudelaire’s poem and the examples presented throughout this chapter. This approach allows the companions to assist in storytelling, with narrative bits unfolding through character’s reactions to events, life-like banter during exploration, or peaceful, quiet moments (referred to as “quality time”) the party can experience together, which creates an emotional pulse (ibid.: slide 83).

Final Fantasy XV serves as an interesting example not only because of the features the designers chose to implement but also for what they chose to omit in favor of believability, chiefly among these is relying on AI to build rapport. Since the goal was to encourage players to treat the NPCs as friends rather than a tool to complete the game, systems such as “friendship points” or a chat button (like in *Façade*), which would make conversing with the NPCs feel like a task rather than an organic interaction, were omitted (ibid.: slides 97 – 98). While the AI of *Final Fantasy XV*

was more advanced than any of its predecessors, it was used primarily to make players feel comfortable with their companions. For example, when walking together in a group, the AI could assess a suitable distance from players or trigger comments when arriving at specific locations or encountering events and other NPCs. Things like learning AI, however, found in virtual agents, virtual pets, and characters such as Milo or *Black & White* creatures were omitted because the developers were concerned players would recognize and treat the companions precisely as such: an AI (ibid.: slide 99), meaning they will try to teach, manipulate and test their limits, rather than consider them as their friends.



Figure 11: Noctis and his companions cooking at a campfire, a core mechanic in the game's leveling-up system. *Final Fantasy XV* (Square Enix 2016). Retrieved from Nakamura 2015.

In his excellent review of *Final Fantasy XV*, Philip Kollar from *Polygon* refers to these points, calling Noctis' friends the game's "beating heart" and adding that "the group is a believable band of buddies who care about each other and enjoy the time they spend together" (Kollar 2016). Kollar also mentions how the game's strongest moments are found during mundane moments occurring organically during gameplay and how bits of character-building tie into mechanics in clever ways:

As they drive across the countryside, Noctis and crew share charming, everyday banter that's all about building up their friendship rather than relaying plot beats... When they turn in for the night, the group sets up camp, and Ignis cooks. Each in-game day's end is punctuated by the friends gathered around a fire, eating, enjoying each other's company (ibid.).

Final Fantasy XV demonstrated how dramatic and emotional moments can be achieved without compromising on what makes video games special. Storytelling was intricately and effectively woven into slower gameplay moments, which were also the most impactful:

These slower elements transformed each of these characters from forgettable anime pretty boys into the virtual equivalent of best friends whom I felt like I'd known all my life. By the end, Noctis' gang are three of the most well-drawn, fully developed characters in Final Fantasy history, because the game lets you just spend time with them, as much in the boring moments as the epic ones (ibid.).

This example highlights the transition from relying on traditional storytelling techniques or focusing mainly on advanced AI to incorporating unique video game elements when approaching players' relationships with video game characters, as seen in the creations of many contemporary designers. Indeed, in forming and maintaining rapport, video games, as discussed in the next section and demonstrated in the following chapters, are most effective and affective when embracing the interactive nature of the medium and merging narrative, mechanics, and gameplay.

An industry in transition

“a great signifier of things to come” (Clarke 2013).

The example of *Final Fantasy XV* shows how much progress video games have made, not necessarily at implementing “smarter” AI, but mainly how vital and impactful our relationships with virtual characters can be even without relying solely on such complex AI characters to form strong bonds or tell their story through lengthy cut scenes. So far, I mainly discussed characters that favored sophisticated AI over other elements. These characters were, to put it bluntly, embodied and more advanced and complex versions of ELIZA, or alternatively, a lesser version of LaMDA and other advanced agents. For example, characters such as *Façade*’s Grace and Trip were smart, perhaps smarter than most conventional video game characters, but they did not do a very good job at acting as believable companions, partially due to the ability of players to “expose” them for what they are (even if some tried not to), and partially because interactions were not implemented in the form of play, lacking any alternative means to bond with them.¹⁸

Façade, Milo, and more advanced versions of virtual pets can be seen as a template of what might be possible on a larger scale, in a future where the medium can produce complex characters where their intelligence is advanced enough to fill up any emotional gaps, or systems that can procedurally generate not only environments, but compelling stories. This, however, should not come at the expense of what makes video games special; otherwise, we might as well be interacting with a simulation rather than a game.¹⁹

As the medium evolves, we see revolutionary game designers creating believable characters that players connect with using attributes that incorporate more than clever AI, such as Noctis’ friends in *Final Fantasy XV*. To clarify, AI played an integral (and in some cases, central) role in the evolution of the medium, and advancements in AI research will no doubt keep pushing video

games forward. However, unlike virtual agents, for virtual characters in video games, AI should be a supporting feature complementing other elements rather than the central theme. In the games I will discuss next, rapport with virtual characters is embedded primarily in video game core components such as narrative, mechanics, and gameplay, each to be discussed and explored further in the following chapters. While designing such characters was gradual and is an ongoing process, we can identify a few milestones that presaged the possibilities found in innovative game design targeting companionship in video games.

In 2001, Team ICO, a small development team in Tokyo, released their first game, an obscure title that became the forefront of blending emotions with game mechanics. Created by Fumito Ueda, *ICO* (Team ICO 2001) introduced a new methodology for fostering player-companion rapport that deepens video games' experience without conceding any of the medium's core features. *ICO* fully embraced the essence of the *game* in a video game, applying a traditional, almost stoic approach to game design. Yet, simultaneously, the simple and oh-so-familiar story of a boy saving a girl was genuinely groundbreaking.

At the heart of the game was the interaction between the player-character ICO and Yorda, the companion. A core mechanic asked players to guide Yorda through the game world by holding her hand, translated mechanically to pressing and holding a button on the controller. With most games asking players to frantically mash buttons to execute actions and complex commands, this serene, almost organic mechanic where players clench the controller as if it was the hand of an innocent and defenseless child simulated intimacy and closeness. Additional mechanics such as controller vibrations, the ability to save progress only when both characters are sitting together, or the lack of a traditional health bar created a visceral connection between the player and Yorda, nurturing empathy by tying the player's wellbeing to hers²⁰ (Barlev 2021: 11).



Figure 12: The player-character Ico leads the companion, Yorda, by holding her hand. On the top right, we see a stone seat, acting as a “save point,” activated when both characters sit together. *ICO* (Team ICO 2001).

ICO is a prime example of a game that crafts a profoundly emotional experience using creative design, which allows players to build rapport with a human character not operated by a sophisticated behavioral AI. Yorda presented an elementary set of behaviors. She is practically helpless, limited to a few key actions, and mostly dependent on players. She cannot defend herself, speaks in language players cannot understand (subtitles only appear after completing the game), and most dramatic moments between the characters are presented in cut scenes. Nevertheless, tying players’ well-being to hers using clever mechanics provoked a sense of selfless concern without the need for complex AI. Yorda’s believability came from the emotions players felt towards her, supported by a minimal story, simple gameplay, and, most notably in this case, impactful mechanics. In the landscape of commercial video games throughout most of the 2000s, *ICO* was unique in its approach to player-companion relationships.²¹

A decade later, however, mainstream video games were less hesitant to tackle profound emotional themes.²² Many games began placing companionships as an integral part of their design, with most elements working in conjunction to support player-companion interaction, as seen in *Final Fantasy XV*, which reflected the industry’s transition. A few years earlier, Scott Clarke from *IGN* published an article titled ‘2012: A Miserable Year for Gamers,’ discussing the process of the

industry shift towards emotionally packed (and often tragic) games. Like many before him, Clarke commented on the emotions and feelings often elicited by games, which he argued tend to skew towards the more shallow end of the spectrum. Gameplay aside, Clarke adds, “most games offer fairly hollow emotional experiences; ones easily forgotten once the adrenaline rush recedes” (Clarke 2013). He marked 2012 as a year of possible transition, with several high-profile, critically acclaimed games managing to strike a much more personal chord with gamers, games that tell “heartfelt stories and confront gamers with complex issues by embracing the interactive nature of games” (ibid.).

Among these games were *The Walking Dead* (Telltale Games 2012), *Papo & Yo* (Minority Media Inc. 2012), and *Journey* (Thatgamecompany 2012), games aiming to arouse emotions by building strong ties between the player and NPC characters (with the exception of *Journey*, where other characters were anonymous human players). *The Walking Dead*, a graphic adventure game designed as a “choose-you-own adventure” story and based on the comic book series by the same name, places players as Lee Everett, a survivor in a zombie-like apocalypse, where they meet other characters and make crucial choices that impact all those around them. These choices create a butterfly effect that impacts future events (under the limitations discussed in Chapter One). When making such crucial decisions, the game goes as far as notifying players that the NPC involved “will remember that.”

Chiefly among the characters players meet in the game is Clementine, an innocent young girl who lost her family, with players taking the role of her protectors. Since each decision players make has severe consequences, they must constantly question their own morality, asking themselves if the choices they make regarding the fate of others are in their favor, or perhaps clouded by the parental care for Clementine, which they wish to protect above all others.



Figure 13: Lee and Clementine. *The Walking Dead* (Telltale Games 2012). Retrieved from Fogel 2012.

Papo & Yo, created by Colombian game designer Vander Caballero, is a simple platform game about a young boy and his friend, Monster. The game takes place in an indistinct favela and is based on Caballero's life experience and relationship with his abusive, alcoholic father, for which Monster serves as a metaphor.²³ At the same time, the game's setting also provides commentary on poverty in South America. The game purposely presents simple challenges and puzzles that manipulate the environment, as Caballero wished *Papo & Yo* "to be challenging emotionally. I don't want it to be challenging dexterity-wise or logic-wise, because emotion and rationality do not gel together. You cannot rationalize it, but you can feel it" (in Johnson 2012). In the game, Monster is addicted to frogs and becomes enraged when consuming one. Taken by this rage, Monster begins chasing after the boy, and the picturesque world dramatically changes. Clarke describes how this mechanic shifts the experience:

Instead of players planning their next platforming move, survival and escape become the only concerns. This mechanic highlights the precarious nature of the situation, and lends itself towards placing the player firmly in the boy's small shoes. *Papo & Yo* is at once both a heartbreaking and cathartic experience, and a great example of

how the strength of the medium can be used to tackle themes of that nature (Clarke 2013).



Figure 14: Monster after consuming a frog, unable to control its rage. *Papo & Yo* (Minority Media Inc. 2012). Retrieved from Suellentrop 2012.

Journey (Thatgamecompany 2012), on the other hand, is a game meant to parallel the hero's monomythic journey as analyzed by Joseph Campbell (1949), who suggests a pattern of a literary hero's adventure. This type of journey includes specific stages such as the initial call for adventure, receiving supernatural aid, overcoming struggles and adversaries, and gaining various boons before the hero completes the journey and his/her transformation. *Journey* delivers these themes through its mechanics, settings, and sequences. The stages of the hero's journey are represented with no text, no voice-over, or any other means of traditional narrative exposition, and yet the developers were able to leverage the tools of interactivity to convey messages of intimacy, joy, fear, vulnerability, and hardship, all integral parts of each stage (Barlev 2021: 5).

Journey's treatment of companionship is fascinating. While it breaches the framework of games analyzed in this study, it is worth discussing for its innovative approach to subtle interaction with other, real players in virtual environments. The game takes place in a mostly barren, desolate desert world that hints at ancient civilization's existence. While it does not feature any active online

features, if players choose to enable online connectivity, they allow anonymously, similarly depicted players to appear in their game seamlessly. The ways to communicate with these strangers are minimal. Nevertheless, the game's setting and the fact these strangers can disappear at any given moment, or simply wander off, mean that bonds are not only easily formed but are a precious glimpse of hope for players to keep pushing forward towards their goal.



Figure 15: Meeting a companion in a vast empty desert. *Journey* (Thatgamecompany 2012).

Retrieved from: Cocker 2011.

Clarke accurately mentions that the most impressive part about these games is not their cutting-edge graphics, polished gameplay, or superior AI. It is that “they were able to evoke feelings and emotions not often associated with games: sadness, grief and longing, horror and distress to name just a few” (Clarke 2013), all achieved mainly via non-traditional, interactive storytelling and gameplay:

While movies and novels can make us care for characters, these games go beyond this, allowing players to directly influence and interact with them. It is one thing to see a character in peril, it is another to be able to save them... or not (ibid.).

Clarke noted that when viewed optimistically, “these titles may be emblematic of an industry reaching maturity and a great signifier of things to come” (ibid.). He was not wrong.

From ELIZA to Elizabeth

“we worked very hard as a team to give her that life” (Levine in Yin-Poole 2012).

2013, in particular, is considered one of the pivotal years in the maturity of the medium, reflected by the release of high-profile, critically acclaimed single-player games such as *Beyond: Two Souls* (Quantic Dream 2013), an interactive psychological drama depicting the relationship of a girl and a soul that was linked to her, *Brothers: A Tale of Two Sons* (Starbreeze Studios 2013), a single-player game where players control two siblings simultaneously as they go on a journey in search of a cure for their dying father, *The Last of Us* (Naughty Dog 2013), a game in a setting similar to that of *The Walking Dead* but with vastly different mechanics and gameplay, and *BioShock Infinite* (Irrational Games 2013) which will be discussed in detail. Each one of these games had a different visual representation, presented a distinct plot, and incorporated various mechanics producing unique gameplay. However, they all shared a similar main feature: companionship between players and virtual characters.

While there is much to learn about the design of companionship from each one of these games, *BioShock Infinite* best fits the criteria for analysis discussed in this study, namely a single-player, mostly linear game with an established plot and characters, where players take the role of a defined player-character and do not have control over the companion. *BioShock Infinite* is presented here to conclude several elements discussed in this chapter and to showcase a believable video game character supported by (but not dependent on) clever AI players interact with in various

ways. In addition, this discussion sets the stage for a more in-depth analysis of titles that each uniquely shows how video games can build rapport.

BioShock Infinite is a first-person shooter/adventure game where players take the role of former detective Booker DeWitt, tasked with finding and rescuing a mysterious young woman named Elizabeth from the floating city of Columbia in the early 1910s, where she was held captive for most of her life. Elizabeth's background story is important, helping to frame her innocent, almost child-like behavior early on, as things she sees in the game are met with immense curiosity (while many are scripted, some are triggered in real-time by the AI), contributing to her believability. However, despite the initial framing of the game as a rescue mission, Elizabeth is by no means a helpless damsel in distress, being a more competent, autonomous companion than, for example, *ICO*'s Yorda (who displays her powers gradually). Elizabeth is immune to any unscripted assault and does not need to be shepherded or protected, which is essential as she is a near-constant companion.²⁴ Her autonomy and abilities during both combat and exploration (such as providing supplies and useful items, picking locks, and reviving the player), coupled with her interesting, witty comments on the world, not only alleviate the need to "babysit" her constantly — an inconvenience many games tend to impose on players — but make her companionship desirable, allowing players to regard her as a capable companion rather than a chore or a burden.

But how did the development team at Irrational Games create not only such a believable character, but one considered among the most beloved gaming companions, featured in every major 'best video game companions' list?²⁵ The answer lies in her design, the illusion of life, and the implementation of the features that constitute a believable agent, coupled with a genuinely innovative approach to a player-companion relationship in interactive environments. Elizabeth was the product of a dedicated team within Irrational Games, set up by the game creator Ken Levine

after repeated requests from staff to cut her out of the game. Much like video games themselves, agents are systems, and the transition into a believable character that was not only the heart and soul of *BioShock Infinite*, but also carried the narrative weight and emotional depth, was simply too complicated to design, program, and integrate. This led to Elizabeth being removed from the game during some playtests since “Nobody knew how to manager her” (Levine in Yin-Poole 2012).

Elizabeth as a companion was also the main “feature” separating *Infinite* from previous titles in the *BioShock* franchise, meaning the team had plenty of experience developing AI enemies, but no prior experience in developing AI companions, requiring a significantly different design approach. The team assembled by Levine, known internally as the ‘Liz Squad,’ was comprised of staff from multiple disciplines: designers, artists, animators, and programmers, all charged with the task of developing a complete, fully realized, believable character who can complement players’ actions during exploration and combat. Every aspect of Elizabeth’s character — AI, presentation, voice, behavior, emotions, and story — was designed to form a profound and meaningful relationship between her and the player.

In an interview with *Eurogamer*, Levine lamented that “there’s not a lot of great AI companions” (ibid.). This is partly because most players’ expectations on that front were relatively low at the time, settling for companions that were more tools than characters, focused on providing useful gameplay mechanics, or simply getting out of the way during combat and not always running in their line of fire. Recalling our discussion on what makes an agent believable, Levine argues that “One thing AIs generally don’t do is react to what’s around them... They have no interest in what’s around them. So we spent a lot of time making Elizabeth notice the world and react to the world and engage with the world” (ibid.). The fact that Elizabeth had been locked up since childhood supported this notion of curiosity the team wished to convey, but Levine simply saw this as a

believable behavior: “When you walk down the street you don’t walk like a robot, which is generally what companion AIs do” (ibid.).

Elizabeth does not only react to the world around her and other NPCs she encounters but to the player-character as well. She is aware of the situation and acts accordingly. Mid-combat, she calls directions from where enemies attack, issues supplies such as ammo and healing items when necessary, and can revive the player if fallen, making her feel like a partner by framing her useability in emotions of trust and care. However, it is her activities and reactivity outside combat, both verbally and by gestures or facial expressions, that make her believable and much more than just a functional AI companion. To achieve this, it was not enough to focus on her as a character, but to build a realized world filled with things she can interact with and comment on, but also one she can easily navigate in convincing ways. Video games featuring AI companions must take into account that the game world will be constantly shared between players and other characters, and for the companion not to feel as if it is attached to the player by an invisible leash, it must have both the abilities and opportunities to display a believable behavior.



Figure 16: Elizabeth (in circle) finds useful items in the environment and tosses them to the player-character. *BioShock Infinite* (Irrational Games 2013). Retrieved from Thompson 2017: 18:00.

For Elizabeth, the world was seeded with things she was interested in and could interact with on her own. Amanda Jeffrey, the level designer for Elizabeth's AI, mentioned that the development team had to "make sure that the things that would be interesting to any other human person are interesting to her as well" (in Sarkar 2013), building each section with Elizabeth in mind and hand placing virtual tags on objects (invisible to players) with different degrees of interest (ibid.). When engaged with such objects, Elizabeth reacted using contextual animation and voicework, expressing a variety of emotions and behaviors, such as excitement when seeing cotton candy (Elizabeth loved cotton candy so much the object itself was labeled as an emotion), being repulsed by cigarette smoke, or simply sit on an empty bench or lean against a wall. This caused Elizabeth to wander around levels (which were able to constrain her since the game was not open-world) and interact with points of interest, which also drew the player's attention to them. Since it is challenging to predict players' actions, Elizabeth assisted the developers in guiding players to notice things they might miss otherwise (recalling Schell's technique for "indirect control" over players). Levine noted that "One of the great joys of the game for me playing it is catching Elizabeth doing something interesting out of the corner of my eye" (in Yin-Poole 2012).



Figure 17: Elizabeth interacts with the environment and other NPCs on her own, buying cotton candy in this scene. *BioShock Infinite* (Irrational Games 2013). Retrieved from Thompson 2017: 12:25.

The ability to act on her own created instances where Elizabeth was roaming slightly far away from players, a feature that ended up impacting her visual design. Since she was often observed from a distance, her movements, gestures, and facial features had to be somewhat exaggerated without making her seem too ridiculous (drawing inspiration from Disney exaggeration principle). John Abercrombie, the lead programmer for Elizabeth AI (and head of the ‘Liz Squad’), mentioned that unless things in games are explicitly shown, players will not notice them. The team constantly kept this player-facing philosophy in mind and included some aspects of theater, such as exaggerated gestures and improvisation, all with the purpose to subtly draw the player’s attention (Abercrombie 2014). In his analysis of the game’s behavioral AI, Thompson discusses how other elements in the design work in conjunction with this behavior: from a storytelling perspective, Elizabeth sees the world for the first time, so reacting to everything around her with immense naivete and enthusiasm works narratively and thematically. Her voicework and animated physical responses represent her emotions, drawing the player’s attention to her, much like a performer on a theatre stage. Elizabeth is not asking players to observe her, but her infectious enthusiasm and exuberance draw players to her performance (Thompson 2014: 8:40).



Figure 18: Elizabeth’s exaggerated facial features allow players to easily notice her actions and expressions. *BioShock Infinite* (Irrational Games 2013). Retrieved from Thompson 2017: 18:00.

However, despite not being an open-world game, the levels in *BioShock Infinite* were still large enough, and considering how erratically players move in most FPS games,²⁶ it was obvious players will not always focus on Elizabeth. To minimize the need for players to constantly turn and face her whenever she was doing something important or wished to interact with the player-character, the theatre principal of blocking was adopted, a process whereby actors are placed with precision on stage to ensure lead performers are shown to their best advantage (ibid.: 9:30).

However, while in theatre there is traditionally one stage, Elizabeth's stage was the entire game world. To ensure players are always facing the "performance," the team implemented a principle from football (soccer) known as "goal-side," a defensive strategy where defensive players ensure they are standing between their goal and the opposing player with possession of the ball. In the game's context, the goal is always the next objective or point of interest, and the player-character is always in possession of the ball. Elizabeth's behavior was programmed to be goal-side at all times, interacting with objects in that vicinity. Simply put, even if Elizabeth is wandering off and exploring the environment, she will always aim to be between players and their objective, ensuring that the "stage" is constantly repositioned for players to observe the performance easily and intuitively (ibid.: 10:30).

Finally, Elizabeth's emotional aspects are central to her believability. Her emotions are modeled as part of her animation. While she expresses herself through interactions, her emotional states are also used to dictate the animation so that she can appear confused, excited, upset, or remorseful and change how she interacts with the environment and the player-character. For example, interacting with a vending machine for the first will cause her confusion, which is represented visually through animation and impacts her behavior and future interactions. This emotional system is even shown during combat. While most video game NPCs appear indifferent

to the immense violence they witness, Elizabeth was given both combat and post-combat emotions: displaying panic or fear during combat and appearing unsettled after battle sequences, instead of immediately reverting to her often-cheerful, pre-combat state.

Elizabeth is a prime example of a virtual agent evolving into a believable companion character, demonstrating the ability of game creators to effectively apply the notion of believability found in characters from other storytelling media into interactive environments. It is fascinating to evaluate the elements that support her believability against those laid out by The OZ Project two decades before her inception, as presented previously by Loyall:

1. Elizabeth's rich and unique personality, established by her background, is infused in anything she does and reflected by her behavior when interacting with things in her world.
2. Elizabeth reacts emotionally to events in accordance with her personality (excitement and confusion, joy and enthusiasm).
3. Elizabeth is self-motivated, not waiting ideally for players' input to act. She engages with the world in ways that are on par with her personality.
4. Elizabeth's character grows and displays change consistent with her personality and the events she encounters. For example, the first time she observes Booker in battle, she is horrified, but over time, she becomes a confident and resourceful partner in combat sequences.
5. Elizabeth forms social relationships by interacting with other NPCs in the game, which she approaches independently. Her relationship with Booker evolves in accordance with the game's events.
6. Elizabeth's expressions are consistent and appropriately convey her personality, feelings, situation, and thoughts.

Finally, Elizabeth displays a full range of an “illusion of life,” a set of behaviors and attributes that support her believability, meticulously designed by her creators. Levine discusses the importance and challenges of achieving this element with a video game character:

An actor comes with certain software that just works. You say to an actor, come into a room. They’re going to go into a room. Say, go into the room and sit down. They’ll go into the room and sit down. They’ll know how to do that. They’ll know to do what people do, look around. Somebody goes by they’ll wave at them. Somebody smokes and they might cough. There are things people do. Elizabeth has to be helped with those things. So she does all of those things because we worked very hard as a team to give her that life (in Yin-Poole 2012).

These efforts clearly paid off, with the game receiving critical acclaim and multiple awards. Reviewers praised Elizabeth from both narrative and gameplay perspectives, commenting on how much she feels like a believable companion that carries the game’s emotional depth thanks to aspects presented in this section. Jim Sterling opens his discussion on Elizabeth, stating that she “feels like a real partner. She becomes an impeccable example of how gameplay can be used to further the narrative. She is as crucial to the player as she is to the story, and both aspects of the character work together in harmonious synchronization” (Sterling 2013).

As discussed, this is achieved by her expressive, believable performance that elicited everything from sympathy to fear and even guilt, which, according to Ryan McCaffrey, provided him with motivation and helped move the story forward emotionally (McCaffrey 2012). Sterling echoes this sentiment, noting that the exaggerated expressions on Elizabeth’s face, movement, and gestures “brings her to life in ways I’ve seen few other characters come close to approaching

(Sterling 2013), to which Lucas Sullivan adds that Elizabeth's body language delivers emotion without words: "a glimmering smile at Booker when he makes promises, an averted gaze and crossed arms if he breaks them. Elizabeth's behavior makes you forget she's a video game character," making her feel like "a completely autonomous companion - a friend" (Sullivan 2013).

What enabled Elizabeth to display this level of believability was the collaboration between writers, character art team, level designers, and gameplay programmers, linking many disparate elements together to ensure that her decisions, movement, and behavioral quirks were consistent and operated in conjunction with one another while always keeping players in mind. All areas of design stem from the primary goal of making Elizabeth believable, resulting in an excellent demonstration of innovative game design supported by a clever AI system, rather than an AI that dictates the design. Embracing the medium's strengths while borrowing elements from other arts without compromising the integrity of interactivity, makes Elizabeth a valuable case study for achieving believability in interactive environments, forming a true sense of companionship.

To solidify this argument, I refer to *BioShock Infinite*'s lead programmer Abercrombie concluding remarks for his GDC talk titled 'Bringing *BioShock Infinite*'s Elizabeth to life.' Abercrombie discusses how the techniques used to design and operate Elizabeth were extremely powerful for allowing the team to create a dynamic, living companion character, resulting in players feeling more like participants in the world and less like observers (Abercrombie 2014: 39:00 – 39:15). He goes on to encourage other developers to be more "player-facing with your game AI; it is more important for a game AI to be entertaining than it is to have a clever algorithm" (ibid.: 39:40), adding that AI programmers, himself included, tend to search for the most robust and possibly complex solution, rather than looking for the elegant and hopefully simple solution that the player will understand (ibid.: 39:50).

In other words, Abercrombie argues that when AI developers approach character AI, they should focus on the player experiences alongside these characters rather than on the algorithm that operates them. The key is the composition of the character behavior, which means that designers (AI programmers included) should consider, for example, theatre and other performance techniques that “can make our AI believable and fun. Exaggerations, blocking, improvisation and even spotlights can all be useful tools” (ibid.: 40:30).

Elizabeth, who did not display an overtly sophisticated AI, presented an illusion of life using a clever implementation of different elements designed to support her as a believable character. In professional game development, Abercrombie concludes, “we are not trying to create the perfect or necessarily real AI, we are trying to create entertainment. The use of simplistic solutions, clever tricks, or hacks should not be discouraged, because the player does not know what techniques we have implemented. They only know what they see on the screen” (ibid.: 40:40 – 40:50).

In the case of Elizabeth, players did not see an agent or advanced chatbot who could communicate in natural language and pretend to understand them. They did not claim she was sentient or tried to find ways to challenge her beyond her obvious, limited capabilities. The illusion was there, and that is all players need to see a companion.

Feeling gaps

“As long as the illusion is there, we’ll find a way” (Cook in Stuart 2014).

2013 also saw the release of a film that redefined our relationships with AI entities. Spike Jonze’s *Her* (Jonze 2013) tells the story of a man who falls in love with a disembodied AI operating system. Curiously, *Her* encapsulates two of the main threads discussed in this study, both interwoven into

our interpretation of and interactions with virtual characters and the emotions spawned as a result, complementing each other in the process.

Chapter One discussed the feedback loop offered by video games as an integral part of the medium's powerful engagement, while Chapter Two brought up a similar notion in a more social form, that of reciprocity between humans and technology. The other thread discussed extensively was a sense of illusion, either of choice, life, or games themselves. In concluding part one of this dissertation, it is important to consider the overlap of these two concepts, since when discussing emotions in video games and our relationship with virtual characters, one cannot effectively exist without the other.

Ultimately, any idea of a reciprocal relationship with virtual characters is not only an illusion, but the very concept can be provocatively challenged. AI researcher and game developer Luke Dicken commented on this idea, saying:

If you're programmed with the capacity to love and you use that capacity, is that true reciprocity or has the player 'gamed the system' to cause it to happen? It's really interesting the asymmetry it introduces in that the participants are less on an equal footing than in a traditional relationship because a virtual character will always be constrained by their programming (in Stuart 2014).

While, as a result, some might dismiss such a relationship as insignificant, this chapter demonstrates how impactful this illusion can be for the participant(s) in the interaction. People, Stuart argues, "fundamentally want to connect, and we will conveniently detach ourselves from the aspects of reality that prevent this from happening" (ibid.). Video games are an extremely powerful medium to support patterns of thought and behavior that facilitate our needs, even when those

needs are not adequately reciprocated. It means, according to Stuart, that “if a game character were to make even the tiniest gestures toward recognition and romance, players will close the gap” (ibid.). Realism or even “real” reciprocity does not play any part in this emotional process, nor does an overly sophisticated AI. When players found rivalry with cars operated by pre-recorded gameplay sessions, felt grief when their virtual pet “died” or guilt when slapping a virtual creature, they did not think about realism; they filled the gaps themselves using believability as a bridge, disregarding if it was purposely designed or imagined.

As we have seen, video games are getting much better at fostering this illusion, with game creators emphasizing more meaningful and impactful aspects of realism than AI or photorealistic graphics. In his *Papo & Yo* review, *New York Times*’ Chris Suellentrop mentioned how, for decades, video games had made grandiose claims about their realism in fields such as graphics or simulations, claims which seem laughable in hindsight. *Papo & Yo* is definitely not intended as a convincing showcase for such claims, with its crude animation and clumsy characters. Nevertheless, as Suellentrop argues, the lyrical tale of a boy and a monster excels in a far more important aspect of realism, setting “a new and altogether different standard in gaming for representing the world as it is” (Suellentrop 2012).

Eventually, most technologies will seem outdated, but meaningful themes, situations, and emotions people can empathize with will not, even if depicting an abusive, alcoholic father as a frog-addict monster does not adhere to realism. Games are partially about escapism, a clear motivation for some players. However, these are usually not the experiences that stay with them. Erin Hoffman discusses how meaningful games, unlike escapist games, evoke meanings, memories, and emotions through their theme. She refers to the popular casual game *Candy Crush Saga* (King 2012), arguing that while it has a certain kind of satisfaction, an escape based on its complete

disconnect from the real world, it is not memorable: “I’m not sure I’m gonna remember that I played *Candy Crush* a lot five or ten years from now” (Hoffman 2015: 9:25). She then talks about her experience playing *Journey*:

Journey I will remember forever. Because the systems inside *Journey* changed me, and I think about my relationships to eternal recurrence and the rest of the world differently now that I finished playing *Journey* (Hoffman 2015: 9:30 – 9:40).

Similarly, emotions generated by interactions last, and video games have shown us how powerful the medium is in forming such interactions. Games such as *BioShock Infinite* present an interpretive space that allows us to project our own feelings, fears, and desires into stories and relationships, which Stuart argues “is the fundamental beauty of all art,” adding that “In video games, we get to have these relationships in real-time, with a narrative that appears to respond to us” (Stuart 2017).

This can also be seen in a game such as *The Walking Dead*. Despite offering limited interactivity, the game gives the illusion of meaningful participation alongside characters we genuinely care for and do not want to let down. These characters respond to *us*, not only to the character we are playing. Since we can choose to make decisions based on our morality (or ones that contradict it), a connection to our own reality is established. Late in the game, the player-character Lee is bitten by a zombie, and players must make a choice before he turns. However, unlike decisions made as Lee throughout the game, the roles are reversed, and players now make the decision *as*, but mainly *for*, Clementine, the companion they did everything in their power to protect for the entirety of the game. She can either shoot Lee, or leave him to turn. There is no way out of this situation, as players are well aware at this point in the game, which might seem as if the

choice does not matter. However, even if the branching narrative of *The Walking Dead* is an illusion, and players have no “real” autonomy regarding their choice in a game that is all about making choices, Tom Baines argues that this final one is all that matters:

The only consequence is your own conscience; the player has to live with whether they chose to leave Clementine’s best friend to turn, or forced a 10-year-old girl to put Lee out of his misery, in the darkness (Baines 2018).

This decision was meaningful because of the relationship players built with Clementine over time. As discussed in Chapter One, the complicity phase presented by this choice gave players a rare opportunity to turn the roles and create an illusion of reciprocity by making a decision for the companion about how they will prefer to meet their inevitable end. While the outcome regarding Less’s fate was clear, players were left wondering how will this choice impact Clementine. The illusion was achieved through compelling storytelling, and the mechanic where believable NPCs “remember” players’ actions. As Stuart explains:

When you see the phrase ‘Clementine will remember that’ it has immense power because it confirms our expectations of what games do - and what the world outside of our control does. It remembers. It responds. It cares (Stuart 2017).

This chapter discussed how elements rooted in game design can contribute to characters’ believability, which in turn can facilitate the formation of rapport and companionship. Hoping to establish a broader understanding and deeper appreciation of just how powerful interactions with such characters can be, I chose to present interactions from a broad, theme-oriented perspective

first, before providing a detailed examination of what constitutes them, namely elements such as narrative, mechanics, and gameplay.

To conclude part one, let us briefly revisit the example of *Her*. The audience cannot tell if the AI has the capacity to feel any emotions. What is clear, however, is that there is an illusion of a reciprocal relationship, and this illusion is not an obstacle to a meaningful emotional engagement but a gateway. In discussing the possibilities of our relationships with video game characters, AI expert and game designer Michael Cook referred to the film:

In the movie *Her*, we never really know whether any of what the AI says is true or not, from start to finish. But that doesn't stop the movie's protagonist from falling in love. As long as the illusion is there, we'll find a way - and game developers have been honing the art of illusion for decades (in Stuart 2014).

A character like Elizabeth is no different. "She" was a character, not an agent. Her believability was supported by believable AI and embedded in the pillars of a video game design. Elizabeth's story, the mechanics of interaction, and their impact on gameplay sequences did not only masterfully complement each other, but were designed so effectively they became entwined with the interaction between her and the players. It did not matter that the relationship spawning from this interaction was an illusion. Andrew Fitch from *Electronic Gaming Monthly* (EGM) said in his review for *BioShock Infinite*:

Even when the rest of the EGM staff had left for the day and darkness enveloped the office, I felt strangely comforted that Elizabeth was there to explore the sometimes-horrifying sights of Columbia with me, as she constantly darted around and chattered

about what she'd found. And I also knew that, should anything untoward unfold, she'd have my back (Fitch 2013).

Equipped with an understanding of both interactions with and characteristics of video game characters, we can now adequately analyze core video game components that contribute to forming rapport, a valuable framework to explore interactions between individuals and a gateway to a sense of companionship. Part Two will open with a discussion on how the study of rapport can assist us in mapping such interactions, followed by an examination of three case studies; each represents a different aspect of game design, highlighting how valuable and effective these elements are in companionship with such characters.

PART TWO

Chapter Four:

The ‘Ludo-Rapport Interaction’ model¹

Part one of this study was dedicated to understanding the emotional engagement of video games and the type of virtual characters players form a companionship with. The discussion on features critical in creating believable video game characters was supported by an understanding of the impact of interactivity according to different degrees of limitations. A feedback loop is at the core of meaningful interactions with believable characters, and several forms of such interactions were discussed. Hence, we can now focus on how, exactly, video games use their unique functions to build and maintain companionship through rapport.

Companionship is a broad term, making it easily applicable to various interactions but simultaneously challenging to evaluate with players and NPCs in mind. Basic definitions refer to the enjoyment of being with someone (Cambridge Dictionary: companionship) or the fellowship among companions (Merriam-Webster: companionship), ranging from applications and pets to significant others. The point of enjoyment is crucial in relation to a discretionary activity that people engage in willingly, such as video games, which naturally includes interactions with game characters.

Isbister, for example, offers an “evaluation checklist” for designers to set guidelines for effective character creation. Concerning NPCs, Isbister highlights “connection” as a key criterion of successful interaction, encouraging developers to consider questions that can support such connections. For example, Isbister suggests that developers ask if the player enjoys interaction with NPCs beyond their functional value, or what specific behaviors of the NPC can cause very negative

or positive reactions. (Isbister 2006: 275). These questions can be addressed from the perspective of believability, as previously discussed, but can also be developed further, asking not only if players enjoy the interaction, but which elements made it enjoyable and facilitated companionship. Hence the use of the study of rapport, a practical framework to address questions on companionship, providing us with established components to review and, once adjusted, appropriate tools to evaluate its formation in video games.

Applying social psychology to video game research

“Why add another layer of complexity?” (Isbister 2006: xx).

As presented in the introduction, there are many directions we can take in the study of video games according to our research objective. After discussing some of the technical and design-oriented aspects of video game characters, referring to social psychology to examine player-NPC interactions can be beneficial in developing methods to evaluate how it evolves into companionship. As we have seen, psychology is already a significant part of Game Studies, but it is applied chiefly to analyze players’ motivations, and the impact (positive or negative) video games can have on players.

Isbister expands this approach, explaining why social psychology is a valuable tool not only for understanding how players react to certain games but how it should be embedded in the design process: “social psychology can offer game developers a very useful framework for understanding (and discussing) the effects that game design choices can have on players. The language of social psychology helps to put words upon effects that great designers are able to achieve . . .” (Isbister 2008: 309). In searching for methods to analyze player-NPC relationships, this approach provides established theories that can be adjusted and applied accordingly.

Naturally, we can consider other approaches from fields and disciplines more closely related to video games, both for design and research. Isbister addresses this question when discussing the value of improving video game characters (playable and NPCs) with psychology: “There are plenty of things to worry about in the game-design process, and there are already models and advice books from cinema and fiction writing that can be drawn upon when creating a game’s characters. Why add another layer of complexity?” (Isbister 2006: xix – xx). By now, however, it is clear we cannot simply copy theories from other related fields (despite sharing more than a few similarities) and paste them onto the study of video games or their design. If we do, we risk missing the medium’s most exciting and unique aspects. Isbister comments on these risks when discussing how some game designers apply design principles from media such as film and fiction² as their primary guidelines:

Using these principles can produce well-wrought dialogue, emotionally evocative cut scenes, or startlingly lifelike motion in a character, but it does not address the core of the experience — the player’s active and unfolding engagement with the game world and the characters within it. A character in a game should reveal itself in relation to the player and his or her actions and motivations. The player’s character is that person’s physical, social, and emotional suit within the game. A nonplayer character (NPC) exists most vividly for the player in the moments in which she or he interacts with the character (ibid.: xx).

This lengthy quote demonstrates the vital role game characters play in the interaction, demanding us to either find or develop an approach that appropriately complements their significance. Isbister suggests using well-established research and findings from social psychology

as valuable rules of thumb and inspirations for character designers. From a research perspective, that inspiration also guides the consideration of social psychology as a tool to understand our interactions with these characters. Social psychology is interested in how people interact socially with one another, emphasizing the individual as the unit, but ultimately aiming to find patterns of how these individuals react and interact in social situations, which can then be applied on different scales.

Another way we can apply ideas from social psychology is by repurposing models within its framework, complying with its purpose of social interactions, and adjusting them to our objective. A thought-provoking field dealing with interpersonal relationships is the study of rapport, a framework extensively researched by social psychologists Linda Tickle-Degnen and Robert Rosenthal, who describe the state as one of human interactions “most pleasant and influential forms” (Tickle-Degnen and Rosenthal 1990: 292).

Tickle-Degnen and Rosenthal and the nature of rapport: benefits and limitations

“a combination of qualities that emerge from each individual during interaction” (Tickle-Degnen and Rosenthal 1990: 286).

The study of interpersonal relationships has traditionally focused on individuals’ feelings, attributions, expectations, and behaviors *vis-à-vis* one another (Altman 1990: 294), elements at the core of Tickle-Degnen and Rosenthal’s research on the nature of rapport. Tickle-Degnen and Rosenthal identify rapport as an interaction that exists only between individuals and is experienced as the result of “a combination of qualities that emerge from each individual during interaction” (Tickle-Degnen and Rosenthal 1990: 286). This initial framing is an excellent starting point when considering rapport between players and companions. When suitably applied to video Game

Studies, it can address the apparent limitation of assessing emotional attachment between human players and virtual characters (Barlev 2021: 9).

Tickle-Degnen and Rosenthal developed a model to facilitate the determination of behavioral correlates, nonverbal in particular, of experiencing rapport. Their model identifies rapport as a dynamic structure of three interrelated components, enabling an examination of a “commonplace construct in a form that recognizes the richness and complexity of that construct” (Tickle-Degnen and Rosenthal 1990: 292). These components are mutual attentiveness, positivity, and coordination, understood at a level of a psychological construct as follows:

- Mutual attentiveness (simplified as the attention component) is responsible for the focused and cohesive interaction between interactants, when they become “unified, through the expression of mutual attention to and involvement with one another” (ibid.: 286). The focus of each participant in this stage of the interaction is directed toward the other. This “other-involved” state allows interactants to “experience the feeling as one of intense mutual interest in what the other is saying or doing” (ibid.).
- The second essential component is the positivity present in the interaction. In this phase, interactants in rapport with one another “feel mutual friendliness and caring” (ibid.). Tickle-Degnen and Rosenthal clarify that while the positivity component is closely related to degrees of involvement and attention, “a high level of one component does not necessarily imply a high level of the other component” (ibid.), resulting in the possibility of negative attention between interactants.
- The final essential component of rapport is the coordination between interactants. It discusses conditions of balance and harmony, a state of being “in sync” with one another to facilitate an image of “equilibrium, of regularity and predictability, of coordination

between the interactants” (ibid.). Once more, although the positivity and coordination components are intricately linked, they are not equivalent. While the terms used to describe coordination have positive connotations, “there is something more to them than just positive valence” (ibid.).

Tickle-Degnen and Rosenthal argue that the three components always make up the structure, regardless of the time rapport is assessed, meaning that all the components are interrelated and present even in cases where one is more dominant than the others. In addition, they draw attention to nonverbal correlates of the components of rapport:

- Attention correlates of rapport is identified as the participants’ “spatial configurations and bodily postures that provide and signal communication accessibility” (ibid.: 290).
- The positivity correlates would be “behaviors, such as smiling and head nodding, that indicate participant liking and approval of one another” (ibid.).
- The coordination correlates refers to “behaviors that signal that the participants are “with” one another, functioning as a coordinated unit, such as postural mirroring and interactional synchrony” (ibid.).

These are useful distinctions for translating and adjusting the components to this study’s objective, as to be explained in the model presentation. However, before discussing the repurpose and application of this structure, it is important to address some apparent limitations in Tickle-Degnen and Rosenthal’s model. First, discussing the nonverbal aspects of an ephemeral concept such as rapport is a challenging task, leading the authors to move freely “between describing the components of rapport as representing both the feelings of the participants during the experience of rapport and behaviors related to those feelings” (ibid.: 286). Clyde Hendrick asks to clarify this ambiguity by suggesting a distinction (based on Olson 1977) between the individuals involved in

the relationship (the insiders) and those who externally observe those individuals (the outsiders) (Hendrick 1990). Hendrick adds that such a distinction shows that the insider perspective deals with the phenomenology of feelings as experienced by participants in interaction, whereas the outsider perspective focuses on bodies and the actions of those bodies in time and space (ibid.: 312 – 313 in Barlev 2021: 12 - 13), an observation that is useful for supporting the structure of the LRI model.

Other critics claim that the three components do not always generate or signal rapport and that the ways they correlate vary across contexts (in Nelson et al. 2016: 1). These concerns and limitations were identified and addressed by Tickle-Degnen, who continues to define and refine the theory dealing with the relationship between rapport and its behavioral correlates. Tickle-Degnen cites the optimal experience model of flow theory (mentioned in Chapter One) as relevant to establish a more theoretically coherent examination of rapport. The term “flow state,” coined in 1990 by psychologist Mihaly Csikszentmihalyi, suggests that a person is most likely to have an optimal experience in the form of “flow” when engaged in a challenging activity that is neither too easy, which leads to boredom, nor too difficult, which results in frustration (Csikszentmihalyi 1990). In her 2006 study, Tickle-Degnen conceptualizes rapport as a kind of flow, arguing that rapport between individuals, in both its affective and behavioral nature, “represents an optimal experience similar to a kind of flow state” (Tickle-Degnen 2006). This is further developed by Nelson et al. in their article ‘Interacting in Flow.’ The researchers empirically evaluate Tickle-Degnen’s adaptation of flow as an optimal experience, to better conceptualize rapport’s behavioral manifestations and determine which exchanges and levels of expressivity should yield the highest levels of rapport (Nelson et al. 2016).

While these are valuable discussions aiming to clarify how the association between rapport's affective nature and its behavioral elements operate in different contexts, this study is more concerned with the idea of reclassifying rapport as an optimal experience, alluding to a potential overlap between rapport and flow states. In the context of this study, it reinforces the examination of games through the lens of rapport, as flow is often addressed in both game research and game design. Isbister discusses flow in her 2016 book *How Games Move Us*, demonstrating how well-designed games, “with the control they offer users over actions in a novel world, readily engage players in a flow state,” allowing them to “enter a pleasurable, optimal performance state” (Isbister 2016: 4). Csikszentmihalyi himself acknowledged flow state in relation to games “as excellent producers of flow in human beings” (ibid). *Journey*'s designer Jenova Chen, one of the most innovative creators in the game industry, developed a working model for designers based on flow theory, that encourages them to keep players in a “sweet spot where they have the right amount of ability to meet the challenges at hand” (ibid: 5).

This contiguity provides another consideration for applying the concept of rapport in video game analysis. While not without limitations, the taxonomy suggested by Tickle-Degnen and Rosenthal is a useful initial framework when applied to the analysis of design aspects of player and companion interaction, and provides an innovative way to explore a relatively uncharted theme in video game studies (Barlev 2021: 10). Applying the study of rapport to discuss human-computer interaction is not uncommon. One such notable attempt was made by Zhao et al., who developed a computational model of rapport management for human-virtual agent interaction. In addition to rapport's role in establishing a feeling of connection and closeness, the researchers considered its powerful effects on performance in various domains, including negotiation, counseling, and education (Zhao et al. 2014: 514). Zhao et al. argue that “Tickle-Degnen and Rosenthal's work on

the changing nonverbal expression of rapport over the course of a relationship has significantly impacted the development of virtual agents” (ibid.: 515). Their study is concerned with the potential benefits of rapport management between human and virtual agents, referring to ways in which “increased rapport leads to better task performance by humans” and could therefore lead to “more effective virtual agent tutors and counselors, among other roles” (ibid.: 525).

While this kind of approach is useful in studying intelligent virtual agents, these methods are not tailored to the study of game characters. As established, video game characters are not just agents and should be evaluated beyond their useability. Although there are numerous player-oriented studies examining players’ emotional attachment to virtual characters, ranging from marriage (Isbister 2016: 31) to romancing virtual pigeons (Lamerichs 2014: 43-61), there is not, to the best of my knowledge, a comprehensive, design-oriented exploration focused on player-companion rapport (Barlev 2021: 10).

Tickle-Degnen and Rosenthal’s theory proves to be a beneficial and functional model for this purpose. First, both formulations examine interactions between “individuals,” a broad enough definition that allows its application in various cases. When applied to single-player games, all interactions performed by players are evinced by the player-character who mediates between the player and NPC, meaning that this multilayered dynamic must include all three individuals in the process of rapport. This dynamic can mean rapport towards non-human and even amorphous forms. As games present diverse companions to interact with, from mythical creatures to artificial life forms, the concept of an individual gives us plenty of freedom to explore unlimited cases (ibid.: 13 – 14).

Media scholar Barbara Klinger, for example, talks about the significance of “unimpeded rapport with the screen” (Klinger 2006: 24). Regarding film culture, Klinger discusses how some

viewers ask to maintain rapport with a film they are watching (and the film-watching experience) by attempting to reproduce the standards of the motion picture theater in the home (ibid.: 247). We cannot ignore the emotional engagement formed between viewers and the characters they meet on screen, a motivation to maintain both the physical and emotional conditions of the experience. Ultimately, Klinger demonstrates how “technophilia” is made possible “by acts of consumption that enable collectors to experience such rapport with machines and mass cultural artifacts” (ibid.: 85), proving not only the potential of applying this nebulous state to a variety of artifacts, but also the need to develop methodologies to evaluate its multilayered application properly.

Second, Tickle-Degnen and Rosenthal emphasize that while “an individual may be particularly adept at developing rapport in certain situations” (Tickle-Degnen and Rosenthal 1990: 286), rapport is not a personality trait but a positive experience between individuals, the result of a combination of qualities that emerge during interaction³ (ibid.). This approach supports the examination of tools available for the player when interacting with a virtual character and proves practicable in video game analysis⁴ (Barlev 2021: 14). The application of Tickle-Degnen and Rosenthal’s structure would be less feasible if we were trying to evaluate virtual characters (of which not all are human companions) based on their “personality” (an approach more suitable for agents) as opposed to their reaction, behavior, and believability during interaction, which can be defined and mapped (ibid.), as we have seen in the case of Elizabeth.

Lastly, nonverbal behavior as presented in Tickle-Degnen and Rosenthal’s study helps to explain the exclusion of games with branching dialogue options (ibid.). Including games of this kind in this type of study is implausible. Usually categorized as role-playing games, such games can take dozens (or hundreds) or hours to complete. If presented with branching dialogue options, conversations can take different paths, resulting in different outcomes based on the player’s choice,

meaning that each game should be completed multiple times to map all its possible interactions, which can include tens of thousands of dialogue lines. In addition, a study designed to evaluate the psychology of choice architecture and decision-making leans more towards understanding players and their motivations rather than the interactions offered to players beyond dialogue. While this is undoubtedly a fascinating aspect of games worth exploring, it is beyond the scope of this study.

One key aspect in Tickle-Degnen and Rosenthal's study omitted from this research is how dominant each component is in different stages of the interaction. They have argued that the development of rapport parallels the development of personal relationships more generally, suggesting that attention, positivity, and coordination change over time, based on how familiar interactants become with one another. It is an interesting concept, but one that is difficult to apply in our case. First, even if the relationship between the player-character and NPC is already established (framed by the game's narrative), each encounter will be the first for the player. For example, *God of War* introduces the NPC Atreus as the son of the player character Kratos. Their past troubled relationship gradually unfolds as players progress through the game, but these are not events players experienced themselves or had any impact on.

Second, interactions in the form of video games involve active play. While all players are equally confined to the set of tools provided by the designer to interact with a game and its characters, players' dexterity and playstyles can vary greatly, making it difficult to establish a unified theory on how such interactions evolve. While some individuals may be particularly adept at developing rapport in certain situations (Tickle-Degnen and Rosenthal 1990: 286), just like some players have better play proficiency than others, a skillful play variant can be more useful when studying player types and playstyles.

Despite these limitations, the established theory suggested by Tickle-Degnen and Rosenthal, when adjusted and applied to the objective of this study, can serve as a gateway that allows us to deepen our understanding of the medium. We have seen how video games encompass elements from a wide variety of disciplines and media, as well as elements that are unique to the medium (Barlev 2021: 14). Nearly two decades ago, video game scholars Mark Wolf and Bernard Perron discussed the need to consider video games as “everything from the ergodic (work) to the ludic (play); as narrative, simulation, performance, remediation, and art” (Wolf and Perron 2003: 2). When evaluating the relationship between games, gameplay mechanics, and narrative, and the way these elements shape and facilitate player-NPC interaction, I consider the LRI model to be a valuable tool in expanding our understanding of games and their multidimensional form.

Towards the LRI model: key components in video games’ participants’ interaction

“the player has a portal into the complex narrative world of the game” (Salen and Zimmerman 2004: 453)

In creating a model that allows us to analyze rapport between players and video game companions using the interrelated components presented by Tickle-Degnen and Rosenthal (Barlev 2021: 10), we must first identify the participants and assign corresponding components in video games that facilitate this interaction. Once established, we can apply the rapport formation structure and evaluate each component’s role in the interaction. As previously discussed, this analysis targets single-player, narrative-based games in which the participants are player-characters, NPCs acting as companions, and players. The components assigned to and operated by the participants are the game’s narrative, mechanics, and gameplay. Explanations of and reasoning for these selections are discussed next.

Player-characters are players' conduits and interface through which "players experience both the physical and social landscape of the game world" (Isbister 2006: 203). The game's events and interactions are performed by, and via, the player-character, and the game's objectives are shared between her and the player (even if these contradict the player's morals or intentions). Unlike most avatars, player-characters are governed by their desires and motivation, and have an established background, personality, goals, and relationships that players explore throughout their shared adventure. Although avatars and player-characters are often used interchangeably, the term avatar usually implies a representation of the player, a blank slate, or a vessel for the player to project their own identity, embody and experience the game world through her perspective (Barlev 2021: 6).

However, such a distinction is not always clear, and deciding how to describe a certain type of player-controlled character can be controversial. Salen and Zimmerman, for example, refer to the protagonist character as "a puppet, an object for the player to manipulate according to the rules of the game" (Salen and Zimmerman 2004: 453). While manipulating characters according to pre-established rules is at the heart of most video games, established player-characters are far from being marionettes for players to manipulate, a complexity addressed by Salen and Zimmerman (Barlev 2021: 6). They acknowledge that by controlling such characters, "the player has a portal into the complex narrative world of the game" (ibid). Hence, the player encounters the game world through the character's eyes, an action which, according to Salen and Zimmerman, results in a strong emotional attachment to their digital counterpart (ibid. in Barlev 2021: 6).

To clarify this distinction, we can refer to the examples discussed previously. *BioShock Infinite*'s protagonist, Booker DeWitt, is a clear example of a player-character. Booker has a detailed history; a former soldier turned detective asking to wipe off a debt, forcing him to embark

on the mission to find and rescue Elizabeth from Columbia. Over the course of the game and through their conversations, players gradually discover Booker's past experiences and motivations. His personality is his own, and while players can try and project their personality through gameplay, there is very little room for role-playing.

Façade, on the other hand, is an excellent example of a player's avatar. While many games allow players to customize the appearance of their avatars to closely represent themselves (or the image they wish to represent), *Façade* is concerned with letting players express their thoughts and feelings (or be someone else entirely). Players are asked to choose a name for their avatar, allowing Grace and Trip to address them directly, and there is a shared history between all three participants. None of this, however, dictates players how to behave, what to do or say in any given interaction.

Both games are presented from a first-person perspective, meaning that both Booker and *Façade*'s avatar are mostly invisible to players (Booker is seen in specific scenarios), and we experience the game world through their eyes. However, while Booker is confined to the game's narrative, *Façade*'s avatar has no constraints beyond the game's rules. Does it mean an avatar has more autonomy than a character? This creates an exciting distinction: while an avatar is "free" within the context of a video game, it is tethered to its player. Without the player, there is no avatar. On the other hand, Booker is a character liberated from these constraints. Players are not Booker; they merely play *as* Booker. They control his actions, but his morals, motivations, and decisions are independent of those of the player.

Hence, players-characters play a pivotal role in the interaction between players and NPCs, since we experience the narrative and relationships through them while driving the story forward by acting as them. Narrative in the context of (some) video games is the sequence of events that unfolds in the game, which may be either linear and pre-scripted or branching and emergent (Barlev

2021: 7). Whether designer-driven or player-driven, narrative binds events together and drives the player toward the game’s story completion. While we can identify different types of narrative involvements,⁵ in this study, narrative refers to the game’s story conveyed through in-game dialogue, cut scenes, environmental storytelling, and so on (ibid.). While the games to be discussed are primarily linear, players can experience them differently based on exploration or in-game choices that may uncover additional storylines and narrative threads. This will not change the game’s conclusion, but the narrative is richly developed, and the relationships it presents have depth and importance regarding the gameplay (Fullerton 2019: 113). Based on the involvement of the player-character within the game’s narrative, this is our first block in the LRI model:

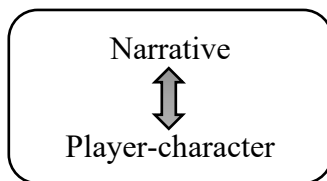


Chart 1: The narrative is experienced via and shaped/driven by the player-character.

The next participant in the interaction is the companion, an NPC character not directly controlled by the player that accompanies the player-character for the entire or most of the duration of a video game (Barlev 2021: 6). As discussed in the introductory chapter, NPCs can conform to different “social roles” in games. The same is true for companions who fulfill numerous roles such as sidekicks, escort objects, information conduits, plot devices, advisers, agents of exposition, or interpreters of plot and lore for both the player and player-character. Companions can assist in maintaining a proper flow or pacing in a game and alleviate slower sections by keeping players engaged, helping defeat difficult enemies, or allowing the player to traverse the game world quicker and reach inaccessible locations (ibid.: 6 – 7). As discussed by Chowanda et al., over time, the patterns of interaction between a player and companion can evolve in several ways according to

the companion design's capability of accommodating such progress (Chowanda et al. 2016: 85 in *ibid.*: 7).

In the context of this study, companions must fulfill a central role throughout the entirety of a video game, even if deliberately absent from some sections as part of the game design and narrative (*ibid.*). This is a common technique in games focused on companionship, since stripping players from the presence of their companions leaves them vulnerable (either practically, as companions offer valuable gameplay mechanics, or emotionally, placing companions in dangerous situations after the emotional attachment has been established). Companions in the case studies discussed are embedded in the game's narrative and cannot be "recruited" or "dismissed" by the player. In addition, the player cannot influence the companion's attitude towards the player-character via dialogue trees and, in most cases, does not directly control the companion⁶ (*ibid.*).

NPC companions, in essence, are part of the game's mechanics, dictating every possible interaction. Günter Hack presents an excellent definition of NPCs that fits best in this study: "NPCs are often the most interesting part of the game, shaping interaction between the user and the rest of the game mechanics. But, however autonomous NPCs might appear, they are always an integral part of the system, driving the narrative and producing options" (Hack 2018: 293). Elizabeth demonstrates this definition: she carries the narrative weight of *BioShock Infinite* (experienced by players via Booker) and presents players with valuable tools and insights about the game's world (which she read about while locked up in her tower). Her believable behavior is dictated by the game's mechanics, allowing her to explore her environment, comment on interesting things she finds, and assist Booker during combat.

Despite being a successful believable character fostering the illusion of life, Elizabeth is ultimately governed by a tight set of game mechanics. Every action she does must be performed in

the player's relative proximity, even if observed from a distance. In other words, Elizabeth is "performing" for the player, and there is no purpose for her performance if the players are not watching. For example, suppose Elizabeth interacts with the cotton candy vendor, and players will move too far ahead without observing her. In that case, the game will "teleport" her to a clearly defined area that complies with the goal-side principle (a seamless process from the player's perspective). This practical solution complements the gameplay and, if presented subtly, does not compromise the companion's believability. It does, however, demonstrate how the companions' autonomy is dictated by the game's mechanics, triggered (directly or indirectly) by players' actions.

Understanding (or explaining) video game mechanics necessitates a closer examination, as we do not have a universally agreed-upon theory of game mechanics. Egenfeldt-Nielsen et al., for example, discuss mechanics as an ambiguous term, often referring to events or actions that the game design allows for (in Barlev 2021: 7). Such a broad definition explains why mechanics are a highly debated component in game design and Game Studies, with several frameworks and theories discussing the term.⁷ Most of these share the idea that game mechanics function as the core of any game and are the building blocks of the game's rule system. Since video games are rule-based, the mechanics organize the causal relationships between the interactions of the different agents in a game according to how play progresses, what happens when, and what conditions determine victory or defeat (if these are elements present in the game) (ibid.: 7 – 8).

Since mechanics are often understood as a subset of rules (or as the rules themselves), these terms are often used interchangeably. However, in the context of this study, I refer to Miguel Sicart (2008), who makes the distinction that rules are normative while mechanics are performative (through gameplay). In other words, the rules in video games are set and meant to remain

underneath the surface of play. These rules are then communicated by the mechanics, operated by the player via the player-character, and facilitate the possible interactions with the companion.

Mechanics in the type of games examined in this study convey the emotional meanings players draw from the interaction. Naturally, these are framed by the narrative, but in games that encourage (inter)active participation, mechanics is an impactful tool to evoke feelings of care, intimacy, and companionship. When players find themselves at the brink of death with an empty magazine during combat, hearing Elizabeth calling Booker from behind cover as she tosses him healing items and ammunition is not only gratifying and exhilarating from a gameplay perspective, but it also creates a sense of camaraderie and simulates care. This, in turn, encourages players to spend more time with Elizabeth, listen to her witty comments and observe her performance when she excitingly tells Booker about something new she learned, instead of rushing from one objective to the next. These seemingly simple mechanics support the entire design of *BioShock Infinite*, complementing both the narrative and gameplay, realized through the meaningful interactions with Elizabeth enabled by the game's mechanics. Hence, mechanics and companions form the second block of the LRI model:

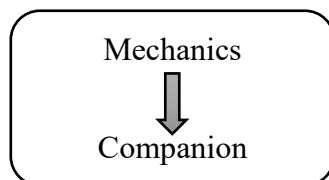


Chart 2: Mechanics convey meanings and provide players means of interacting with companions.

The final participant in the interaction is, of course, the player. Players and player types were discussed in the introduction and are also associated with the player-character. An exciting direction for future research would be to evaluate if games focused on companionship with NPCs (and the emotions such interactions evoke) attract a specific type of players, adding perhaps another

layer alongside the social types commonly discussed. This is not uncommon in other media that often refer to emotional states (explicit or implicit) when discussing genres, unlike video games that focus mainly on forms and functions. Klinger, for example, discusses how some film viewers observe that they specifically seek out “tearjerkers” to achieve catharsis, with some mentioning they like to “rewatch films that choke them up or make them cry” (Klinger 2006: 165). While this requires a dedicated research, is it possible to assume that some players are leaning towards games that evoke powerful emotional experiences? When considering the type of games discussed in Chapter One, games consumed mainly through play rather than watch, we can begin by establishing how vital gameplay is when experiencing such games.

Gameplay is the interface created by the game mechanics (Adams and Dormans 2012). As noted by Egenfeldt-Nielsen et al., the term gameplay is often used but rarely defined (Egenfeldt-Nielsen et al. 2016: 127). While they argue that gameplay refers to the game dynamics, or more simply, “how it feels to play a game,” they acknowledge that this feeling is influenced by other factors such as a game’s audio and visual aspects (aesthetic elements which I will address shortly), and that gameplay is usually considered a consequence of the game’s rules rather than its “representation” (ibid. in Barlev 2021: 8).

Gameplay fully depends on players’ active participation, and it is the component that allows for the most player autonomy, creating an interesting tension between players and player-characters. A well-known example is *Sonic the Hedgehog* (Sega 1991), a game that placed players in the shoes of the snarky blue hedgehog. Sonic’s trademark was speed, and if players stopped interacting with the game (or, more accurately, with Sonic) for more than a few seconds, he would look straight at the screen, cross his arms, and tap his feet impatiently, urging players to get moving. Sonic could not act without the player’s input. While this clever gesture of breaking the fourth wall established

his unique character, it also demonstrated that player-characters have the least amount of autonomy when it comes to gameplay. In other words, while narrative and mechanics are (mostly) objective, gameplay is subjective. Being primarily player-focused, gameplay is a subset of all possible interactions in a game and a tangible interface for mechanics in experiencing video games' narrative, providing us with the third block of the LRI model:

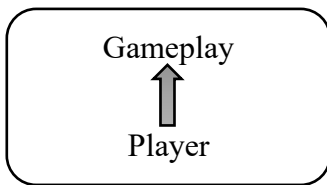


Chart 3: Gameplay is formed by the player's use of available interaction mechanics.

While none of these blocks are more important than the others, their function in this configuration is distinct and explicitly tailored to evaluate interactions between players and companions via the player-character. We have seen these or similar components in other frameworks from the early days of Game Studies (Barlev 2021: 21). Circling back to the introductory chapter, we recall Aarseth's tripartite structure that characterizes every game in virtual environments as containing gameplay (focused on the players' actions, strategies, and motives), game-structure (dealing with the rules of the game, including the simulation rules), and game-world (the fictional content, topology/level design, textures, etc.) (in *ibid.*). This is also seen in the MDA model (2004) developed by Hunicke, LeBlanc, and Zubeck, which divides games into three separate dimensions: mechanics, dynamics, and aesthetics, a taxonomy that attempted to bridge the gap between game design and development, game criticism, and technical game research. Imra Hofmann also discusses video games by referring to three related components, arguing that gameplay is the tangible interface between player experience and game mechanics, based on the taxonomy of game experience, gameplay, and game mechanics (*ibid.*).

These variations clearly parallel the blocks of interactions presented in this section. Despite being commonly considered video games' building blocks, applications and structures are designed with different objectives that do not aim to represent or explain every gaming phenomenon. The same is true for the taxonomy suggested in this study, which focuses not only on these core video game components but also on the participants assigned to each. These concepts are further developed, considering how these blocks correlate with the components of rapport formation suggested by Tickle-Degnen and Rosenthal. This requires bridging the sets of components from each field and identifying commonalities we can appropriately assign, forming a complete structure of the LRI model.

Before completing the model, however, it is necessary to address another crucial aspect, or "block," absent from the discussion presented in this chapter: aesthetics. Aesthetics are part of every game; these are all the stimulating elements, visuals, or audio that deliver the story, whether an abstract representation of reality or photo-realistic, motion-capture rendering of human bodies and faces. Aesthetics, by nature, are the first elements players encounter. It is no wonder that most video game marketing is focused on showcasing the game's visuals and visual design, since it is the only aspect players can instantly absorb and evaluate before actually playing the game for themselves.

A significant portion of any medium's rhetorical power can be associated with its mode of representation (Calleja 2011: 140), allowing creators to design atmospheres, messages and meanings that are easily picked up by consumers. Schell, for example, considers aesthetics as one of the four basic elements that form a game (alongside mechanics, story, and technology), since this element has the most direct relationship to a player's experience (Schell 2015: 52)

Considering the importance of aesthetics, it is necessary to explain its absence from the LRI model. First, in their discussion on rapport, Tickle-Degnen and Rosenthal do not include participants' appearance or voice. Nonverbal cues are undoubtedly related and communicated visually, but their role is not dependent on appearance. If we would be interested in how attraction is formed between players and companions, then this aspect would certainly be central to the discussion. Isbister, for example, discusses the impact of gender-based attraction as one motivation for social interaction in the form of sexual interest. When designing characters for this purpose, it is necessary to consider players' own desires map onto the design, allowing them to respond strongly and positively to the characters they either control or interact with (Isbister 2006: 118). We cannot ignore that most video game characters are designed to appear visually attractive (a common criticism towards the medium), but this is not significantly different from most entertainment products.

This leads to the second reason: the aspect of aesthetics is inseparable from the discussion on the "illusion of life," an element video games share with other visual media in creating believable characters (that was clearly demonstrated in Elizabeth's design). Isbister dedicates large sections of her book on video game characters' design to discuss social equipment in the forms of characters' bodies, faces, and voices. While she does not refer to either rapport or the illusion of life, some design elements Isbister discusses can clearly support rapport formation with believable characters. For example, emotions that people read in others' facial expressions can be "contagious" and lead to social syncing and empathy, or interpersonal distance and touch (such as in *ICO*) allow people to communicate different forms of connections and feelings (Isbister 2006).

These elements play an integral part in a game experience. Aesthetics create the environments, characters, and sounds that form an experience allowing players to engage with all

other aspects of games. These elements should not, however, be isolated from other blocks, and will be addressed according to their integration in the narrative, mechanics, and gameplay, as enablers of believability and for supporting rapport.

The Ludo-Rapport Interaction model

“a particularly powerful medium for affecting players’ moods and emotional states” (Calleja 2011b: 135).

After establishing the components to be analyzed, it is necessary to identify common “states” that can be associated with attention, positivity, and coordination as well as narrative, mechanics, and gameplay. This process should consider elements relevant to the objective of this study, since other purposes can present the same components/states in different configurations. Renowned media scholar Torben Grodal argues that “video games are focused on the relation between input and output, the relation between perception, attention, emotion and motor control” (Grodal 2000: 203). Play, Grodal adds, integrates perceptions, cognitions, emotions, and actions, resulting in video games being “emotionally, cognitively, and physically demanding” (ibid.: 209). Inspired by Grodal, Gordon Calleja (discussed in Chapter One) formed a model for understanding player involvement in virtual game environments. Calleja’s model identifies six dimensions of involvement (kinesthetic, spatial, shared, narrative, affective and ludic), each influencing how another is perceived and interacted with. The dimensions suggested by Calleja are combined in the game-playing experience, “with the inclusion or exclusion of a dimension affecting how others operate” (Calleja 2011b: 37 – 38).

Although Calleja does not address players-NPCs rapport in his evaluation, the dimensions he identifies are useful states for correlating the components discussed in this chapter. The states

Calleja discusses are experienced unconsciously during the interpretative and communicative process of playing video games, with the “cognitive, emotional, and kinesthetic feedback loop that is formed between the game and the player makes digital games a particularly powerful medium for affecting players’ moods and emotional states” (ibid.: 135).

This observation, detailing the significance and formation of the feedback loop, brings us closer to aligning rapport and video game components based on shared states and principles. Individuals, Tickle-Degnen and Rosenthal argue, experience rapport “as the result of a combination of qualities that emerge from each individual during interaction” (Tickle-Degnen and Rosenthal 1990: 286), and game designers — while cannot directly dictate the specific effects of their creations — can make design choices that encourage a particular kind of reaction or emotional response from players. Considering cognitive, emotional (or affective), and kinesthetic states to describe the qualities that emerge during the interaction, aligning each with the previously introduced building blocks, can form the necessary correlation between the two.

First, as previously mentioned, mutual attentiveness (or attention) refers to the awareness of interactants towards each other. It is the stage of the interaction where the focus of each participant is directed toward the actions of the other, which can be translated into a cognitive state. According to the American Psychological Association (APA), cognition is defined as “all forms of knowing and awareness, such as perceiving, conceiving, remembering, reasoning, judging, imagining, and problem solving” (APA Dictionary of Psychology: cognition). Hence, I identify attention as the cognitive component of the interaction. This component is then manifested in the game’s narrative, experienced via, and driven by, an established player-character.

Attention ↔ Cognition ↔ Narrative (player-character focused)

Considering its broad definition, cognition has been intricately linked to the formation of narratives that assist us in making sense of perceptions and experiences. Jan Simons, for example, opens his discussion on narrative in games with the statement that “Narrative became generally considered as the core pattern for cognition, comprehension and explanation and as the most important tool for construing identities and histories” (Simons 2007). The connection between cognition and narrative is embedded in the term “narrative cognition,” described by Anderson as “a categorical term for cognition that applies or specifically works upon narrative” (Anderson 2015: 2). A thorough exploration of the mind-narrative nexus is offered by David Herman, one of the leading scholars of cognitive narrative who explores ways in which “stories highlight the impact of events on the mind or minds experiencing those events within a storyworld” (Herman 2009: 137). Herman discusses how “stories across media interlock with interpreters’ mental capacities and dispositions (thus giving rise to narrative experiences),” and how narrative supports our efforts to make sense of the experience itself (Herman 2013: ix). He further argues that research on storytelling across media “has important implications for the science of mind. Specifically, traditions of narrative inquiry can illuminate how the constraints and affordances of various media shape readers’, viewers’, and listeners’ efforts to build narrative worlds in particular storytelling environments” (ibid. 103).

Story-driven video games operate within storytelling environments, engaging players to act in the narrative through the gameplay and the player-character, emphasizing interactions and relationships. When discussing other media, for example, literature, Herman refers to cognitive properties that arise from interactions over the course of a story, allowing for the structure of the narrative to “both illuminate and be illuminated by accounts of distributed cognition, or modes of intelligent activity arising from within dyads and larger social groups” (ibid.: 185). Herman

expands this argument to networks “linking human and non-human agents in particular sectors of the environment” (ibid.), bringing the discussion closer to our case and further reinforcing the cognition-narrative correlation.

In games fulfilling the analysis criteria, both the narrative (a form of knowing) and the interaction with the companion (a form of awareness) are communicated and experienced via the player-character (displayed in Figure 19), the player’s conduit in the emotional experience (Barlev 2021: 10). Grodal discusses different phases forming such an experience: “a cause, an arousal, a cognitive appreciation and labeling followed by some actions that remove the cause of arousal” (Grodal 2000: 201). While these phases reflect any real-life experience, Grodal adds that to elicit phasic emotions in fiction, “we need a focusing character, because without such character we cannot specify any coping strategies” (ibid.).

Video games create multilayered attention between the participants: while rapport is formed between players and companions, the first layer is between the player and their character. The interactive nature of games compels players to pay careful attention to what the character they control is doing, how it reacts to their button presses and the game environment, and what are the mechanics attached to the character. The player-character, controlled by the player, must also direct its “focus” to the player’s commands and “respond” accordingly (recalling the example of Sonic, demanding the player’s attention if ignored).

Finally, Tickle-Degnen and Rosenthal draw attention to nonverbal correlates of each component, with attention being the “spatial configurations and bodily postures of the participants that provide and signal communication accessibility” (Tickle-Degnen and Rosenthal 1990: 290). Associating this nonverbal correlates with the player-character might seem challenging since, in some cases, players only see the companion through the player-character’s eyes (as in *BioShock*

Infinite). This, however, is not different from real-life interactions. Whether we play as the player-character from first or third-person perspectives, our attention is directed towards the companion and the spatial configurations dictated by the narrative sections. In other cases, some first-person games display the player-character only during cut-scenes in pivotal moments that advance the plot.

Ultimately, the narrative dictates the focused and cohesive interaction between interactants toward the objectives presented to the player as the player-character. Following the definition of attention, the focus of each participant in this stage is directed toward the other, either positively or negatively, but it is ultimately bounded to the narrative and experienced via the player-character, placing the [Narrative/Player-character] block at the center of the LRI model (Barlev 2021: 10 – 11).

Next, positivity is recognized as the affective stage of the interaction, referring to feelings of friendliness and care. The term positivity, however, is limiting by its nature, but with affect, we have room to examine more complex emotions between interactants, as it is generally defined as “any experience of feeling or emotion” (APA Dictionary of Psychology: affect), described in terms of positive affect or negative affect (ibid. in Barlev 2021: 11).

As previously discussed, mechanics are often used to convey meanings (ibid.), and meanings create emotional experiences. As argued by Lazzaro, because emotions relate directly to a person’s goals, “they are *always* involved in player experiences, regardless of whether the designer is aware of this” (Lazzaro 2009: 6). Similarly to Calleja, Lazzaro mentions that game designers cannot design emotions directly, and instead they design “the rules in the box” that offer player choices (ibid.: 7), and mechanics are often seen as the rules (or subset of rules) of a video game, manifested by player’s choices on how they interact with the available mechanics. Emotions, Lazzaro adds, emerge principally from the process of making choices, and the relationship between

game mechanics and player emotions can increase engagement in several ways (ibid.). Elsewhere Lazzaro discusses how “emotions that match the game mechanic help players concentrate more and mechanics that offer players emotions they enjoy give players a reason to play. Games are self-motivating activities. Emotion plays a big role in this” (Lazzaro 2008: 320 – 321). In the type of games examined in this study, positivity (and its variations) is the affective stage of the interaction, operated by the game’s mechanics.



This correlation allows us to examine how mechanics are used to build (or break) rapport and evaluate if these are in support of the interaction with the companion, at the core of the interaction, or whether their role in the interaction is limited. As established, this component is companion focused (Barlev 2021: 11). A prime example of the use of mechanics to establish player-and-companion rapport was discussed in relation to *ICO*, basing the interaction on a simple yet effective hand-holding mechanic that simulated intimacy and evoked emotional attachment between the participants. The [Mechanics/Companion] block’s significance is determined by design: in games that base their emotional engagement primarily on narrative, mechanics might support rapport rather than initiate it. However, in games such as *ICO*, where storytelling is minimal and left for players to interpret based on their experience, rapport is predominantly formed through the game’s mechanics.

Emphasizing this link further is the nonverbal positivity correlates. Tickle-Degnen and Rosenthal identify it as behaviors that indicate participant liking and approval of one another, which can be represented by facial expressions and head nodding. As mentioned, players rarely see the player-character’s face in many games. While this varies depending on the visual design,

companions often communicate their emotional state using such nonverbal cues. Consider, for example, Elizabeth's image presented in Figure 18. Her exaggerated facial features allow players to easily notice her reactions and expressions, conveying her emotional state, which could easily be communicated to players. While Elizabeth has many more "tools" to project her thoughts and feelings, such nonverbal cues are even more important when interacting with non-human companions. Much of the interaction is based on how players "read" the companion's reactions to their actions (use of mechanics), as discussed in the case study presented in Chapter Six.

The final correlation between coordination and gameplay is perhaps the most straightforward, as both allude to kinesthetic involvement. Coordination discusses conditions of balance and harmony, a state of being "in sync" with one another to facilitate regularity and predictability between the interactants. Gameplay, as previously mentioned, is often associated with "game feel," which, according to game designer Steve Swink is created when a game takes over the action-perception cycle used to cope with and navigate physical environments (Swink 2022: 36). Instead of perceiving our hand moving to grab an object, we see our player-character move in response to our input on the controlling device. This physical hand/body movement results in the character movement within the game space, creating, according to Swink, "a subtle transposition, where action flows from hands to controller and into the game. The eyes, ears, and hands then perceive the results, process them, and respond within a few milliseconds" (ibid.: 37). Swink refers to this as game feel system, and it is the kinesthetic core of most video games.

Kinesthesia is the sense that enables us to control and coordinate movements (APA Dictionary of Psychology: kinesthesia), reflecting the performative stage of the interaction. This stage is player-focused and multilayered since it asks players not only to be in sync with the player-

character they control, but also to utilize all the available mechanics in the interaction with the companion, resulting in gameplay that is framed by the narrative (Barlev 2021: 12).

Coordination ↔ kinesthesia ↔ **Gameplay** (player focused)

The interaction can have different requirements and sync levels with the companion, as well as challenges imposed by the narrative, meaning it requires a high level of attention between all interactants, as well as a high level of player attention to the sequences presented by the narrative to execute them accordingly (ibid.). Much has been written about the tension between narrative and (game)play. Are stories told by the game or formed by the players through gameplay? How do we distinguish between representation (a building block for narrative) and simulation as a core aspect of games? The narrative surrounding these discussions constantly evolves, allowing us to consider new approaches and evaluate different perspectives.

Susan Leigh Foster offers such an exciting perspective in her discussion on dance and narrative, which presents features relevant to the assignment of coordination as gameplay and its relation to forming rapport within the narrative's frame:

. . . the dancer walks onstage, greets the audience, and proceeds to illustrate the story she is about to dance by explaining the gestures that connote specific people, places, and actions of the tale she will dance. Yet the performance that follows includes not only these gestural sequences, but also long phrases of rapid, rhythmic foot patterns that punctuate the story with virtuoso physical dexterity (Leigh Foster 2005: 95).

Is this process vastly different than the act of play, with mechanics mimicking gestures that form the dance/gameplay in a restricted environment? Game design is the equivalent of choreography, which, according to Leigh Foster, “theorises corporeal, individual, and social identity by placing bodies in dynamic rapport, one with another, that suggests an unfolding of their relations that inevitably charts a narrative trajectory” (ibid.: 96). Players’ performance is dependent on multiple factors besides dexterity, and designing companions that can assist players in performing (play) better, help to maintain flow and strengthening rapport.

As previously mentioned, the coordination correlates refers to “behaviors that signal that the participants are “with” one another, functioning as a coordinated unit” (Tickle-Degnen and Rosenthal 1990: 290). While sync between player and player-character is a fundamental aspect of gameplay (a responsive character leads to a “good” game feel), designing companions that can coordinate in a believable (and meaningful) manner is highly complex. If the companion’s functionality does not offer opportunities for cooperative play, the companion is at risk of being viewed as a gameplay tool, restricting rapport to less impactful sequences. However, if coordination with the companion is contextual and embedded in gameplay, necessary to overcome shared challenges, players can feel a sense of true companionship, demonstrating the importance of the [Gameplay/Player] block.

After establishing the correlation between the components in rapport formation, we can address the distinction between internal and external perspectives on a person’s behavior, as previously mentioned. Hendrick, who made this distinction in relation to rapport, is basing his observation on David Olson, who addressed the question of “whose definition of reality is the most important, the individuals involved in the relationship (the insiders) or those who externally observe those individuals (the outsiders)” (Olson 1977: 115). When applied to virtual and human

interactants, this is a thought-provoking question and must consider the frame of the games discussed in this study.

When implementing this distinction in our case, narrative-based, mostly linear games with established characters, the companion is identified as the insider of the interaction, focused on the affective element/mechanics component (Barlev 2021: 12 – 13). The companion’s “experience,” while it might vary depending on how mechanics are implemented, is confined within the frame of the narrative, its definition of reality. The player, concerned with the kinesthetic element/gameplay component, focuses on bodies and the actions of those bodies in time and space, shares the reality with the characters throughout the game. While the play experience might impact players long after, players are always visitors in game worlds. If, for example, a player is struggling to complete a specific sequence and hands the controller to someone else, they will be transported out of the game’s reality. Players are (significant) outsiders in video games, making each player’s experience unique. Experiencing these worlds via the player-character, places it as the mediator between players and companions. With player-characters assigned to the narrative, and since narrative is the central block in the LRI model, a continuous feedback loop between all interactants is formed. In games that emphasize companionship, this loop affects players emotionally and maintains a sense of flow/rapport, resulting in the following model:

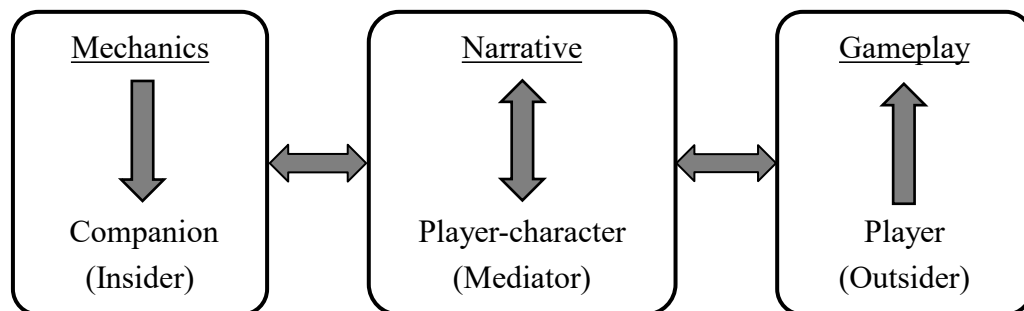


Chart 4: The ‘Ludo-Rapport Interaction’ model. Each component focuses on a specific method of interaction while simultaneously supporting the other components/participants in forming rapport.

None of the components operate in isolation in a video game environment, with every part of the interaction being affected by a specific participant and operated by a different component. As the model demonstrates, the components are interrelated, meaning that even in cases where one is more dominant than others, we must consider the entire structure and all its parts (Barlev 2021: 13). This echoes Calleja's model: his six dimensions of interactions are experienced not in isolation but always in relation to each other, with the separation being made for the sake of analysis (Calleja 2011: 37).

Hence, if we change the purpose of the design, the linking elements can correlate differently with the cognitive, affective, and kinesthetic components. As with most theoretical frameworks, this classification is artificial and serves the specific purpose of this model, meaning that its components are not unique in their form, but unique only in their function within this model. The purpose of the LRI model is not to examine if there can be an emotional attachment between players and NPCs, as this question was proven positive by multiple researchers designing specific models to test players' and NPCs' involvement. Nor does it aim to answer how players interact with companions when given multiple engagement options (for example, befriending, romancing, or betraying). Instead, this model is designed to analyze how game designers implement different methods to form companionship between players and their virtual companions via the player-character (Barlev 2021: 13).

Since layers of emotions frequently contradict one another, especially in narrative-driven games where companionship is often developed through conflict, the evaluation of relationships through the lens of rapport allows one to focus on the interaction phase, and its different correlates addressing different states. This framework also enables us to address the question of reciprocity, assigned to mechanics and illustrated via narrative. I discussed in length the importance of

reciprocity (or the illusion of) between players and NPCs. This correlation is strengthened by Tickle-Degnen and Rosenthal, who mention that positivity and attention cues would be exchanged if individuals felt warmth toward and interest in one another. However, an individual would not feel rapport if he or she “had positive and attentive feelings toward the other, but these feelings were not reciprocated, at least partially, in the form of nonverbal cues” (Tickle-Degnen and Rosenthal 1990: 288). Such cues are crucial for rapport formation, and in our interaction with virtual characters, a lack of contextual reactions can also jeopardize their believability.

To conclude this chapter, it is necessary to address the question of autonomy of each participant in the interaction. This not only complements the extensive discussion on players’ freedom, autonomy, and volition, as well as the values of virtual characters, but can also provide us with a perspective on which segments in the interaction rapport have the most potential to be formed.

As mentioned, each participant has different degrees of autonomy associated with their assigned component. Narrative is the most restrictive component for players, but allows player-characters to operate according to their design, sometimes without the player’s intervention. For example, when players reach a certain point in the game, player-characters can go through a transformation communicated in a cut-scene, which players have no control over. Of course, players can (in most cases) load a previous save point, but this not only violates the integrity of the interaction but eventually, in order to progress, players must submit to the narrative, owned by the characters they operate. During gameplay, however, players regain control, and player-characters lose most of their autonomy. Companions, meanwhile, operate in the range between gameplay and narrative, not fully committed to each. Depending on their design and behavioral AI (if implemented), companions can interact with their environment independently, encouraging players

to advance, but they cannot overcome the narrative limitations. In most cases, companions must comply with the mechanics of interactions, but these can also be altered to provide them with more autonomy and believability, an aspect that will be demonstrated in the case studies analysis.

Tickle-Degnen and Rosenthal suggest a chart that maps the relative importance of the three components of rapport from early to late interactions (Tickle-Degnen and Rosenthal 1990: 287), an aspect that, as previously explained, is not applied in this study. However, their chart can be adjusted and evaluate the relative autonomy of each participant in the interaction in relation to each other and the assigned components, resulting in the following map:

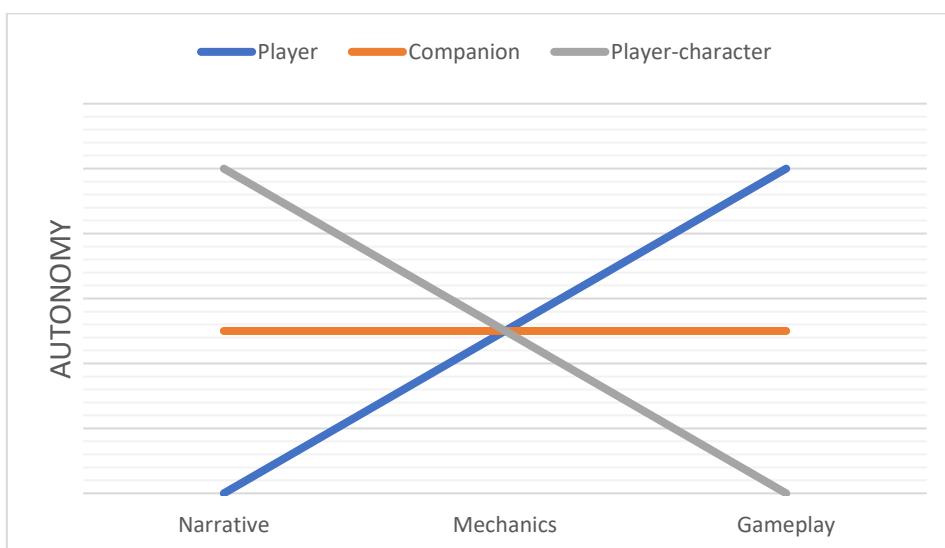


Chart 5: Relative level of participants' autonomy in relation to components in different stages of interaction.

The point of intersection is ideal for rapport formation and optimal game experience.

As discussed in Chapter One, players' desire for autonomy is based on their will to act willingly and volitionally, not necessarily freely. If players have complete freedom, it will make NPCs feel more like puppets than believable companions. This map demonstrates that for rapport to be formed, players must experience limitation in their own autonomy, volitionally surrender

“freedom” that allows other participants some autonomy of their own. Engaging in activities that foster rapport can generate meaningful play and compensate for the sense of freedom loss.

While not an integral part of the LRI model, this map is meant to demonstrate the complexity of interactions and can (and should) be adjusted depending on the type of games we ask to analyze. Much like the LRI model, it is a tool tailored to the objective of this study. Evaluating companionship in video games through the lens of rapport provides a tangible platform for analysis. Tickle-Degnen and Rosenthal’s theory is precisely that, a platform rather than a pedestal, a framework flexible enough to apply while maintaining its integrity. Video games, like most media, is a representation of life’s segments introduced in a variety of methods aiming to replicate or evoke different notions and emotions.

The case studies analyzed in the following chapters demonstrate this variety. When Aarseth offered the tripartite structure for game analysis, he mentioned how the interdependent levels have different weights in different games (Aarseth 2003: 3). The case studies represent the same malleability of games, each showcasing a different method to evoke feelings of companionship through rapport. In these cases, some components are more dominant than others, placing either narrative, mechanics, or gameplay at the heart of the interaction.

Case studies analysis

“there is no one ‘true’ reading of any played game” (Boudreau 2012: 114).

The following chapters are dedicated to discussing and analyzing the different components in relation to the case studies. As presented in the introduction, I apply a ‘playertheorist’ (Aarseth 2007: 131) method of analysis, where my own playing experience is used to evaluate the game (and its process) as a cultural, expressive object. Inspired by Aarseth’s humanities-based approach

to game analysis, gameplay (and player) is central to the process of “creating ludic meaning, a function that is created by the gameplay as well as cocreator of it” (ibid.: 131 – 132).

Aarseth discusses the notion of an “implied player” (applied to games from the implied reader), seen as a role made for the player by the game and a “set of expectations that the player must fulfill for the game to exercise its effect” (ibid.). This approach means that analysis is conducted as a two-pronged engagement (Redder and Schott 2022), examining the game world (via its world and characters) through both a ludic lens and the lens of the respective disciplinary field and objective set for this study. Aarseth adds that since every game houses expectations for a player’s behavior — supported by an interface, and represented (in my case studies) by a player-character — the implied player “has a concrete, material existence, because the game will not be realized unless some mechanism allows player input” (Aarseth 2007: 132).

This, however, also means that the observations and conclusions of the analysis are my own, constructed within the analysis framework. Each case study was evaluated based on the author’s play experience, playstyle, and personal reading of meanings and messages (which is more pertinent in some games than others). Choosing (mostly) linear games that do not offer branching (scripted) narratives or multiple endings might relieve some possible issues with this approach, but other interpretations might be just as applicable and valid. Focusing on elements within the framework, namely narrative, mechanics and gameplay, should also direct the discussion towards the objective of this study. However, the various systems in each game can initiate different choices leading to different conclusions. Also, in the absence of formal research methods in the form of quantitative data collection, I rely on game ontologies, professional reviews, and designers’ comments to confirm and validate the arguments made regarding the games played.

Ultimately, as argued by Bizzocchi and Tannenbaum, “New media and games suffer from a certain degree of indeterminacy: one cannot guarantee that two readers will encounter the same media assets while interacting with a game, or that they will experience them in the same order. Nor can one guarantee that they will observe and attend to the same details of the experience” (Bizzocchi and Tannenbaum, 2011: 272 in Boudreau 2012: 112). The act of gameplay is subjective within an objective rule-based system. Each player brings a different perspective based on various external factors, inherently altering the gameplay experience (ibid.). Game scholar Kelly Boudreau accurately argues that even though the designer’s goal is to “create a consistent experience for all players, especially in the case of narratively structured single-player video games, they cannot account for each player on an individual level” (ibid.).

The games used in this analysis were selected to accommodate the LRI model and display its validity in evaluating methods applied by designers placing companionship at the core of the experience. While other games could be used for the same purpose, the selection of case studies presents a refined (due to production constraints or intentional design) application of each component, easily identified and isolated, while also maintaining the entire structure’s cohesiveness and integrity. By selecting these games, I aim to demonstrate the effect of each component, how it supports or is operated by its assigned participant, what it can teach us about their level of autonomy, and how it shapes the relationships presented by the game.

Each game was played to completion, with relevant segments or images recorded or captured to accompany the discussion on specific themes. Unless otherwise stated, all images presented in the following chapters were captured by the author during gameplay. Due to the length of some of these games, play was sometimes dispersed across several months, which might have impacted the analysis’ cohesiveness. This demonstrates that play does not only vary between

players but also how one player's experience can be altered depending on different play times, challenging the perception of a "unified" player type.

Boudreau reminds us that "there is no one 'true' reading of any played game" (ibid.: 114). Much like her comprehensive study on hybrid identities in single-player games, the analysis presented in the following chapters aims to demonstrate the framework as an analytical tool. Simultaneously, it complements the discussion on other central themes in this study and offers personalized examples to show that the potential for rapport and companionship "exists somewhere between play and design" (ibid.).

Chapter Five:

Narrative and player-character in *A Plague Tale: Innocence*

Narrative is arguably one of the most frequently debated topics in Game Studies. Since the field was established more than twenty years ago, scholars have been discussing the relation (and often tension) between stories and games, considering video games as everything from a non-narrative medium to the future of narrative media. Early on, we saw an oversimplified dichotomy that placed narrative and interactivity on opposite ends, with some arguing that narration and interactivity cannot coexist or suggesting that the stories of a game session are told not by the game, but by the player.

As video games evolved and the field of game studies matured, we moved past asking whether games are or can be stories (or, more accurately, if games can contain stories), to consider questions that help us better understand the relationship between gameplay (or interactivity) and stories. How can video games' unique traits be implemented to tell a linear story in a non-linear environment? Or, should we embrace the fact that games are simply another form of storytelling without constantly trying to justify their interactive nature?

This discussion does not suggest we have to superimpose the classical viewpoint of narrative on video games. Teun Dubbelman argues that under their procedural affordances, games “are able to produce dynamic sequences of events, real-time, using the input of the narratee” (Dubbelman 2016: 40), meaning that the classical definition of narrative as recounting becomes problematic or even inapplicable (ibid.). Hence, we can understand narrative in games as the representation of an event or sequence of events, while also considering how it facilitates change and operates within a rule-based system.

This complexity results in numerous approaches for evaluating narrative in games, clearly demonstrated by Hartmut Koenitz's entry on narrative in the *Encyclopedia of Computer Graphics and Games*, where he states, "Today, no generally accepted definition of video game narrative exists . . . In the field of video game studies, narrative aspects of video games are often described in contrast to rule-based aspects" (Koenitz 2018: 1). Koenitz discusses few common approaches suggested by leading video game scholars, who use narrative to mean anything from an ornamental function to provide context, an experiential quality during the experience of a video game, or a high-level analytical framework to understand video games (in *ibid.*). In other words, Koenitz argues:

one scholar's "experience dimension" might be another scholar's "narrative" and one developer's "level design" might be an audience member's "narrative." As a generally accepted definition of "narrative" (and the related term "story") seems elusive for the time being, scholars and professionals working on video game narrative are highly encouraged to make their respective definitions and underlying assumptions explicit (*ibid.*: 2).

This valuable observation encourages us to consider that video games, above all, are not a single form (some might argue it is difficult to decide whether they even constitute a single medium), as evident by the variety of games discussed so far. How vital, then, is the discussion or an agreed definition of narrative in relation to games? After all, as argued by Marie-Laure Ryan, "Nobody would walk into a bookstore and ask for "a narrative," because what matters to us are individual narrative genres, such as historiography, biography, science fiction, or fantasy, and not the general category that subsumes them all" (Ryan 2007: 32).

Recalling the discussion on game genres, this observation might not fully apply to video games, where the term is commonly used outside academic discussion. The Game Awards, for example, has a “Best Narrative” category for “outstanding storytelling and narrative development in a game” (The Game Awards 2021b). In addition, some of the most popular digital storefronts of video games’ largest platforms refer to “Narration” (Epic Games Store) or “Story-Rich” (Steam) as categories or genres. Sony’s PlayStation online store has a dedicated section curating “The best narrative adventure games” (revised from “best narrative games”), assisting players in locating “the most compelling story-focused games on PlayStation” (PlayStation Store). While such distinctions are usually straightforward for well-versed players, they might not mean as much for those unfamiliar with different types of games or the variety of storytelling methods the medium can display, regardless of if one considers games as stories or argues that players create stories from and within them.

For Koster, it is clearly the latter: “Games are not stories (though players can create stories from them)” (Koster 2013c: 88). To clarify, Koster offers a helpful division of storytelling components into three terms that are often used interchangeably but can also mean relatively specific things, depending on their context. These are plot, story, and narrative. A plot is a sequence of causal events created by an author, a narrative is a sequence of events from a certain perspective, meaning we can build narrative out of any experience at all (as in the case of narratives that emerge out of gameplay), and a story is a narrative constructed out of interacting with a plot (Koster 2013c: 257). Koster mentions how in game design circles, designers often speak of “the author’s story and the player’s story, because these can end up diverging widely” (ibid.).

However, depending on the game’s structure, these can also be not vastly different from one another. Undoubtedly, each player (or reader, or viewer) *experiences* stories differently, but it

does not mean each one *creates* an entirely different story. The collaboration between designers and players can take different forms and degrees of involvement, as video games are both a unique medium and an extension of other forms. Designers use established storytelling techniques, vernaculars from other media, such as cinematography, literature, theatre, and dance, or conceive new ones to accommodate interactivity. Hence, while games are not inherently storytelling devices, they are a powerful interface for crafting fiction, uniting the lineage of both play and narrative.

A Plague Tale: Innocence (Asobo Studio 2019), the case study to be discussed in this chapter, is a clear demonstration of a game that tells a story in its own way, inviting players to participate in a confined, intimate, and focused experience. It leaves little room for reshaping meanings or straying off the path (both figuratively and mechanically) laid down by its narrative, and much like one of its central themes, does not hesitate to hold players' hands throughout its (roughly) twelve-hour course (across 17 chapters), to ensure that interactivity does not compromise its message and tone, but elevates it. In this chapter, I will discuss *A Plague Tale: Innocence* setting, structure, characters, and player's role and abilities. These are all essential to evaluate how the game retains its player-character within a linear narrative, supported by procedural rhetoric¹ and thematically implementing mechanics and gameplay — all operate collectively — to support its message of companionship, loss of innocence, and selflessness.

A Plague Tale: Innocence: setting and structure

"You must take care of this child, because without you he will die" (Renard in NeoGamer 2020: 5:00 – 5:10)

A Plague Tale: Innocence (hereinafter shortened to *A Plague Tale*) is a third-person, narrative-focused action-adventure game released in 2019 by Asobo Studio, a 45 people development team

located in the Southwestern French city of Bordeaux. The studio location inspired the team for the game's setting. It is a fertile ground for the story they wanted to tell, an imaginative history based on the events of the Black Death plague and the Hundred Year's War that ravaged the Kingdom of France in the mid-14th century. Set in 1348 Aquitaine, the game follows Amicia de Rune, a noble fifteen-year-old girl (player-character), and her younger brother Hugo (companion), a five-year-old boy who spent most of his life in isolation due to a mysterious illness. For unknown reasons, Hugo is hunted by the Inquisition, which sets a ruthless attack on the de Rune estate, slaughtering the household (Amicia later discovers her mother was captured alive) and forcing Amicia to protect her brother, whom she barely knows. The siblings manage to flee through villages and towns devastated by plague and war as they try to find a cure for Hugo and understand the nature of his illness. On their journey, they meet others who help them in their quest: Lucas, a young alchemist apprentice who lost his master; Melie and Arthur, twins who fled their abusive father, resolving to theft for survival; and Rodric, the son of a blacksmith whose father was murdered by the Inquisition. This ragtag fellowship of orphans tries to resist the Inquisition and survive swarms of infected rats, the embodiment of the plague in the game, all while committed to protecting Hugo and aiding Amicia in finding a cure for her brother. As described in Asobo's official site: "Aided only by the link that binds their fates together, the children will face the darkest days of history in their struggle to survive" (Asobo Studio).



Figure 19: The game's main cast, from left to right: Rodric, Arthur, Hugo, Amicia, Lucas, and Melie. Image captured from the game's official trailer. *A Plague Tale: Innocence* (Asobo Studio 2019). Retrieved from Focus Entertainment official YouTube channel (2021).

These “links” are the core of *A Plague Tale*, both narratively and mechanically, with every element supporting the bonds between its cast of characters. Video games’ main storyline is often known as the game’s “campaign,” a term that seems exclusive to video games in entertainment media. The most fitting definition here is “a plan consisting of a number of activities directed toward the achievement of an aim” (Cambridge Dictionary: campaign). The use of the term campaign regarding games properly encapsulates the core components analyzed in the case studies. However, it is especially applicable in a game that relies heavily on narrative to tell its story and deliver its message.

The “plan” in *A Plague Tale* is the game’s narrative, primarily the story of Amicia and Hugo. The activities are players’ interactions with the mechanics, forming the gameplay utilized

to achieve the game's objective. There is little deviation from the plan set forth by the designers, resulting in a linear narrative and structure referred to in game design as the "string of pearls" method, one of the most dominant forms of interactive storytelling. Schell describes this concept in detail, explaining that a completely non-interactive story (the string) "is presented in the form of a text, a slideshow, or an animated sequence and then the player is given a period of free movement and control (the pearl) with a fixed goal in mind" (Schell 2015: 299). Once players achieve the goal, they travel the string through another non-interactive sequence to the next pearl, creating a clear segmentation between interactive and non-interactive sequences.

Despite common criticism that this method is not truly interactive (which is accurate at times), Schell argues that the string of pearls method "gives the player an experience where they get to enjoy a finely crafted story, punctuated with periods of interactivity and challenge. The reward for succeeding at the challenge? More story and new challenges" (ibid.). There are, of course, other ways to balance gameplay and storytelling. However, games that embrace this method, such as *A Plague Tale*, must ensure that the interactive sections are compelling and that narrative development in non-interactive forms is rewarding. Aesthetics plays a significant role in such sections, particularly in games that present much of their narrative via cut scenes and cinematics. The visual gap between cut scenes and gameplay was notorious in most games prior to the mid-2000s since non-interactive sections could display stunning visuals, fully rendered computer graphics images that barely resembled gameplay sections. Game engines must allocate processing resources to support performance, but recent game engines are advanced enough to allow for a seamless transition between non-interactive sections and gameplay, as clearly seen in *A Plague Tale*.



Figures 20 & 21: Since all visuals run in-engine, *A Plague Tale: Innocence* can support a seamless transition between cut scenes (left) and gameplay (right).

A Plague Tale fully commits to the string of pearls structure, inserting cinematics at scripted key moments to elevate the drama or progress the story beyond what is offered via in-game dialogues. This consistency is crucial for maintaining the game's dreary atmosphere and worldbuilding that frames the relationships: the environment is unforgiving, and the characters have nothing and no one but each other. While games often embrace periods of intense conflict as backdrops to their stories, the specific period of the Hundred Year's War is rarely used (beyond real-time strategy games), and coupled with the break of the Death Black, the setting allowed the developers to highlight the contrast between the comfortable noble life Amicia was accustomed to, to the harsh realities of a battle-scattered country and its poor settlements ravaged by plague.



Figures 22 & 23: On the left, Amicia enters the family's estate dining hall in the game's first chapter, greeted by the servants: "Oh... Lady Amicia, hello! I didn't see you there...". On the right, a nearby village Amicia and Hugo escaped to after fleeing their home. One house is marked with an X shape, suggesting the plague has infected its inhabitants.

The game leans heavily into its setting, and despite presenting an imaginative recreation of a historical period, it remains faithful to local beliefs regarding the source of the plague. As the title suggests, the plague is central to the narrative. We soon learn that the plague is transferred by rats' bite and spreads rapidly, poisoning the infected blood, and covering their body with boils until they die in agony. That is, if they are not devoured alive. Rats are the plague's embodiment, and the game can have 5000 of the deadly rodents on screen in real-time, moving in swarms and operating in a shared "hive-mind." Kevin Choteau, the game's director, commented that the rats' behavior needs to be believable, both as individuals and when moving in swarms, for which the team did extensive video research learning the behavior patterns of rats in large groups (Choteau and Renard 2019: 4:40). Hence, the plague is not only central to the narrative, but it is also the game's main technical feature, driving the mechanics and core gameplay loop as players must navigate through the swarms, protected only by light and fire, and learn how to manipulate the rats to their advantage.

The game's fantastical portrayal of the Black Death plague (referred to as "The Bite") is the topic of Redder and Schott's fascinating analysis of how *A Plague Tale* can act as a historical game. This under-investigated genre displays "period-faithful and authentic interactive representations of elements of history that possess pedagogical value distinct from written accounts" (Redder and Schott 2022: 1). As mentioned, the game's setting is crucial for framing and building the bonds between the characters, and preserving the period's authenticity was a key element the developers wished to maintain, despite the game's fantastical nature of the rat swarms. As argued

by Redder and Schott, there are “a number of Medieval, Early Modern, and even Classical folkloric and literary plague sources detailing a fantasized expression or imagination of rats not as the vector or cause of origin of plagues, but interestingly symbolized or viewed as a harbinger, vessel, or instrument for a deadly yet invisible entity” (ibid.: 8).

The fantastic adaption of the Black Death in *A Plague Tale* is constantly present, tied to items and collectibles players find in their journey, such as amulets and talismans obtained by commoners for protection, or other curiosities common at the time, encouraging players’ exploration. The superstitions surrounding the plague cement the siblings’ isolation and despair. As they reach the village after their escape, unaware of the plague’s scale, Amicia and Hugo look for shelter, knocking on every door and begging for help. The locals quickly shut their doors and windows, afraid of the deadly disease and its unknown source. Amicia, accustomed to her noble position, pleads for help: “I’m your lord’s daughter!” she demands, only to be rejected by the frightened villagers. She sees smoke rising from the village center, hasting in search of shelter. As they get near, Hugo asks, “I can smell something cooking! Is it a fair?” Amicia, hesitating, answers, “It doesn’t sound like a fair...” Much like the plague, rumors spread across the village. As order begins to collapse, the locals turn to public executions, burning anyone suspected of bringing “the filth that attacked our children in their beds and gave’em the black thing!”



Figure 24: Reaching the village’s center, Amicia and Hugo find a burned body’s remains on the stake. The man at the center accuses the siblings of bringing the plague, forcing them to flee.

Unlike invisible but transmissible infections, players have multiple tools to repel the disease personified or hosted by the rats who thrive at night and in dark spaces (Redder and Schott 2022: 13), afraid of light and fire above all else. As seen in the example above, dealing with humans is more complex. The game borrows a common theme from stories revolving around zombies, which, unlike humans, are mindless creatures with no agency or the capacity to distinguish right from wrong. In such stories, people are the real threat, and *A Plague Tale* is no different. This is visible primarily in the form of the Inquisition: as players advance in their journey, they realize that as ominous as the rats are, the Inquisition is the ones to fear. As Laurentius, one of the game's characters, notes, "The rats are dangerous but disorganized... The Inquisition, however, they'll seek the boy tirelessly." The Inquisition asks to use the plague, and rats, for their own agenda, accusing anyone who disobeys them of heresy, leading to mass executions. As the links between Hugo, the plague, and the rats unfold, it becomes clear that the Inquisition uses the plague to justify their means, echoed by Redder and Schott who states: "In encountering and surviving rats as the deadly devourer of both human and animal lives, the game echoes the way rats and their carnivorous behavior were used in tales as a manifestation or a poetic imagination of plague as famine and mass starvation caused by human wickedness and corruption" (ibid.: 15).



Figure 25: Mass executions by the Inquisition creates haunting imagery throughout the world of *A Plague Tale*.

The plague's impact on the game's world gradually progresses as its corrupted nature spreads across the land, and entire cities become engulfed by rat nests and consumed by decay. The transformation of the environment is also visible on Hugo, with black veins beginning to cover his face, hinting at a link between the boy and the plague, urging players to save him before it consumes him as well. Redder and Schott note that the game employs rats to performatively hasten the impact of contagion and infection for players, supported by environmental storytelling emphasizing the human impact of the plague. This is done by displaying masses of dead bodies "indicative of communities' inability to stem the spread, prevent death, and process the dead. This effective aesthetic and procedural device positions the game as a nightmarish Medieval horror, an atmosphere that primes the player for survival-based interactivity" (ibid.: 12 – 13).



Figure 26: Players are frequently reminded of the harsh reality Amicia and Hugo face, as they are often surrounded by death caused by the plague, war, or the Inquisition.

In this merciless setting, says Sebastien Renard, the game's narrative director, the message for players is clear: "you must take care of this child, because without you he will die" (Renard in NeoGamer 2020: 5:00 – 5:10). That means that the setting and structure of *A Plague Tale* must faithfully accommodate the narrative depicting the relationship between Amicia and Hugo, the one element all other components work to support. *A Plague Tale* is ultimately about bonds, family,

and companionship, and, as acknowledged by Renard, by being “sadistic with our characters” (Choteau and Renard 2019: 8:45), the team could create a story where those relationships are tested and unfolded in emotional and meaningful ways. Choteau comments on this theme and the impact of placing Amicia and Hugo — two children who know little of the world outside the safety of their estate — in this punitive environment: “They’re on the road, they don’t know anything [about what’s going on], they don’t know each other ... and now they’re facing this world that seems to be so much more brutal than anything they’ve ever seen” (Choteau in Valdes 2018). According to the string of pearls method, there can ultimately be only one ending, and most challenges presented by the game have only one solution. Players are given a varying amount of freedom, but their ability to trigger progression within the narrative is under the rigid control of the game designers, whose responsibility is to tell a compelling story. Simply put, since the narrative carries the emotional weight, the game should tell a good story.

This is not always the case in video games; a medium often criticized for poor storytelling. In 2013, Raph Koster published the second edition of his acclaimed book *A Theory of Fun*, where he wrote: “The most common route these days for developing games involves grafting a story onto them. But most video game developers take a (usually mediocre) story and put little game obstacles all through it” (Koster 2013: 86). Koster goes on to claim that by and large, “people don’t play with game systems because of the stories. The stories that wrap the systems are usually side dishes for the brain. For one thing, it has been rare to see a game story written by an actual writer. As a result, they are usually around the high-school level of literary sophistication at best” (ibid.).

Such harsh criticism, especially one coming from a veteran game designer, should be placed in context. As discussed in Chapter Three, many games prior to Koster’s remarks did not excel in their narration and prioritized other aspects of interactivity.² Koster qualifies his statement in an

endnote, acknowledging that as of writing in 2013, there is “a rise in storytelling games where narrative elements are actually treated as tokens within a game system” (ibid.: 257). Interestingly, 2013 was the year when *The Last of Us* and *Brothers: A Tale of Two Sons* were released, two emotional, character-focused games that were highly praised for their storytelling and the way it was supported by the mechanics. Choteau cites these two games as a significant inspiration for the developers (Choteau in Valdes 2018), highlighting the industry’s transition toward a more mature and meaningful implementation of stories, a far cry from the “high-school level of literary sophistication” alluded to by Koster.

Indeed, there are multiple approaches to game design. We have seen, for example, how *BioShock Infinite*’s mechanics impacted Elizabeth’s design to complement gameplay. In *A Plague Tale*, the narrative was not simply “grafted” as an excuse for interacting with the game’s systems, but the systems were built around the theme of companionship, supported by a fully realized world to accommodate the complexity and growth of Amicia and Hugo’s relationship. The game’s creative director, David Dedeine, makes this point clear:

I think the real starting point was the relationship between the two characters. It was actually there even before the rats. We wanted characters that would be fragile and friction them against the real world, so that’s the reason we set it up in the Middle Age, and the rats and the gameplay which come with it came later. (Dedeine 2018: 0:20 – 0:34).

Regarding game characters’ impact on narrative, Schell argues that “If we are to create games that have great stories in them, these stories must contain memorable characters” (Schell 2015: 345). Amicia and Hugo are the beating heart of *A Plague Tale*. They are memorable,

believable characters central to the game's narrative and its theme of companionship and selflessness, as explored in the following sections.

A Plague Tale: Innocence: characters and interactions

“the player's puppet in the game world, but the puppet also ends up affecting the puppeteer”

(Isbister 2019: 136).

As discussed in the previous section, Asobo Studio created a setting where the main characters grow through hardships, taking players on an emotional journey they can do little to change its course but must participate in if they wish to aid Amicia in her quest to save her brother. The narrative is experienced through the eyes of Amicia, who is integral to each facet of the game; she is the actant in *A Plague Tale*, a character with her own opinions, conflict, and intentions.

Every emotional experience is communicated through Amicia, and she often frames her emotional state in ways that evoke players' empathy. Chapter One of this study discussed emotions in length, primarily how games generate feelings via the feedback loop of interactivity. Josiah Lebowitz and Chris Klug complement this discussion in relation to characters in stories, offering a comprehensive exploration of the significance of emotional connection to game characters. They open their discussion on these connections with a question: why are emotions so important?

It's just a story, right? Yes, but the entire point of stories is to let us experience other places and other lives. When we feel sympathy for a tragic heroine or deep hatred for a villain, it proves just how much a part of the story we've become. We're no longer just observing a fictional event; to us, the place and characters have become alive and real. They're not strangers on a page – they're our friends, companions,

and enemies, and as such, we truly care what happens to them (Lebowitz and Klug 2011: 107).

These emotions and attachments act as motivations (to read an entire series of books or commit to numerous seasons of a TV show), which in the case of video games means they can help players perform actions on behalf of the player-character, even if such actions contradict their morality or intentions. The story must frame such actions in believable ways, be consistent in its characters' development, and provide players with means to justify the player-character's decisions. This is one reason why companionship and compassion are so effective in evoking emotions that support players' actions. That is not to say that games necessarily need stories to be emotional; even abstract games can evoke strong reactions if read and interpreted by players in ways that resonate with them emotionally. Narrative, however, can present events outlined in ways that evoke emotions designed by the creator while leaving room for identification based on each player's personal experience and readings. Lebowitz and Klug acknowledge that not all stories need to achieve a profound level of involvement with their characters, with some "never even try and instead strive to be merely enjoyable without forming any sort of complex emotional attachment" (ibid.).

A Plague Tale, however, is all about these complex, emotional attachments to and between its cast of characters. The narrative is consequential in framing the relationships, but as players get more invested in the characters' drama, the grand plot almost becomes its background, and the prime motivation is to support Amicia in protecting Hugo at all costs, including her (and our) humanity. Asked about what it takes to write compelling, meaningful relationships between characters, narrative director Renard replied, "first of all, work on your characters. I think it's the main thing. We know that when you build a story, it starts with your characters because there are

obstacles, fears, etc., that are going to make them alive, and give you enough material to create and nourish the bonds” (Choteau and Renard 2019: 28:45 – 29:00). This begins with Amicia, the player-character.

Amicia

Players first meet Amicia at the serene outskirts of the de Rune Chateau, a lush forest where she and her father, Robert, a French nobleman, go for a horseback ride and a walk. We hear Robert calling, “You are dawdling Amicia! How will you be able to follow the lords at hunt?” She replies, giggling: “Is that your only ambition for me? To follow? I will beat them and I will watch them eat my dust as I forge ahead!” This witty reply frames her assertive character early on and her relationship with players, as will be discussed shortly. It also contrasts her appearance. Coming from a noble family, explains Oliver Ponsonnet, the game’s art director, Amicia has been spared by life, and her features are clean and soft, juxtaposing with what follows in her journey (Ponsonnet in NeoGamer 2020: 6:17 – 6:28).



Figure 27: Amicia in the game’s first chapter, her features are soft and clean, juxtaposing the events that follow.

At the forest, Amicia asks to take on “the knight’s challenge,” and the two, accompanied by the family’s dog Lion, make their way towards an apple tree where Amicia can take the

challenge, namely to shoot down apples with her sling. The tranquil stroll through the forest serves as a sort of tutorial, allowing players to get accustomed to the controls, but also as a way to get to know Amicia and some of the tensions in her relationships with her mother, whom Amicia clearly wishes to spend more time with. There is a hint of jealousy in her tone when she mentions her mother, which, as Robert explains, has her obligation to take care of Amicia's brother, depriving the daughter of her mother's attention.

Arriving at the apple tree, Amicia takes out a sling she received as a gift from her father, and players must shoot down six apples to complete "the knight's challenge." This section introduces players to one of the game's core mechanics, using Amicia's sling to fire rocks and other alchemy-based projectiles. The game offers a generous "lock-on" system, meaning that hitting targets is not particularly challenging, hinting early on that combat, while required at times of need, is not the focus of the experience.



Figure 28: Amicia taking on "the knight's challenge." Her father, Robert, and Lion, the family dog, are beside her.

Players' additional abilities during gameplay are throwing objects (usually for distracting enemies), dodging, crouching (crucial for remaining hidden and moving in silence), vaulting over obstacles, sprinting, and interacting with objects in the environment (only when available,

according to on-screen prompts). Use of the sling, however, as well as the ability to craft different types of alchemy projectiles and mixtures later in the game, is embedded in most aspects of gameplay, including traversing the environment, solving puzzles, and surviving encounters with rats and guards of the Inquisition.

The peaceful opening is not indicative of the events that follow, as described earlier. Not long after Amicia completes her challenge, Lion suffers a gruesome death, being pulled into the ground by rats who are not yet visible. The girl and her father rush back to the Chateau, and Amicia is instructed to let her mother, Beatrice, know what happened to the family dog. Amicia pauses as she approaches her mother's study, where Beatrice, a well-learned alchemist, spends most of her time searching for a cure for Hugo's illness and does not like to be disturbed. This is when the Inquisition arrives at the de Rune estate searching for the boy. Beatrice instructs Amicia to stay hidden with Hugo so she can try and reason with the intruders. Noticing Amicia's hesitation, Beatrice tells her daughter, "He is not contagious. I realize you hardly know him."

Entering the boy's room, Amicia asks herself, "How long has he been here? Four years? Five?" Although players meet Hugo for the first time, Amicia herself had only a few encounters with her brother. Finding the young boy playing by himself, Amicia approaches cautiously, introducing herself, "It's me... Your sister... Amicia." "Hello," Hugo replies quietly, and Amicia, trying to reassure him, says "We haven't seen each other much... Mummy will be back soon."



Figure 29: Amicia and Hugo's first meeting in the game.

Hearing noises from the estate's plaza, Amicia looks out the window, only to see her beloved father executed for not willing to give up his son. Inquisition guards charge into the family residence, slaughtering the servants, calling, "The boy is valuable. He must be taken alive!" Hugo rushes to Amicia's side, who shelters him. The siblings move as one unit, with Hugo physically "attached" to Amicia during scripted sections rather than acting independently. Amicia manages to make their way past the guards and reach their mother. Hugo runs to Beatrice's arms, but Amicia hesitates, until her mother reaches her hand towards her, a gesture the girl is clearly not accustomed to.



Figures 30 & 31: Hugo runs and is embraced by his mother, but Amicia hesitates until Beatrice reaches her.

The three must escape the estate through the gardens, hiding in the tall grass and moving silently. From behind the grass, we see that the Inquisition guards have captured the gardener, asking him about Hugo's hideout. The old man only replies, "The little one loves flower. I used to take him some," foreshadowing one of the most impactful interactions between the siblings later in their journey. Beatrice instructs Amicia to "Hold your brother's hand and follow me in silence, all right?" Considering the circumstances, Amicia does not protest as she did when responding to her father. However, we must consider that not only Beatrice, Hugo, and Amicia are present in that sequence, but also players. In-game dialogue can sometimes be directed not only towards characters but also to instruct players diegetically instead of more intrusive means such as on-screen text and messages. Players learn how crucial it is to move stealthily and avoid detection (implemented mechanically by crouching and hiding in tall grass), especially early on when Amicia does not have adequate tools to defend herself and her brother.

Beatrice leads the way, with Amicia and Hugo following. Amicia can easily vault over obstacles or climb through windows ledges, but her brother struggles. "Amicia, you have to help him next time!" says Beatrice. We learn another valuable mechanic when traveling with Hugo, implemented the next time the two has to climb over a wooden fence.



Figure 32 & 33: Players are guided to assist Hugo in reaching inaccessible places, learning a valuable mechanic diegetically.

As they reach the gate leading out from the gardens, Nicholas, the captain of the Inquisition guard who executed Robert, rushes to stop them. Beatrice pleads Amicia to protect Hugo, instructing her where to find help. Amicia realizes her mother intends to stay behind and hold off the attackers. “You do not need me Amicia,” she tells her daughter, but Amicia insists, begging, “But I do need you! I need you!” Beatrice shuts the gate, and a bloody sword pierces through the door. Assuming her mother is dead, Amicia grabs Hugo’s hand, and the two make their escape. In the background, Inquisition guards yell, “Kill the sister! Take the boy alive!” The grueling journey of Amicia and her brother begins.



Figures 34 & 35: Amicia cries to her mother not to leave her (left), and the siblings escape from their home, chased by the Inquisition (right).

Isbister considers player-characters as the primary mechanism designers use to offer players meaningful and emotionally resonant game choices (Isbister 2019: 136). We act on behalf of these characters in a game’s narrative world, but the choices we make, especially in linear games, are merely executed by players rather than initiated. Characters controlled by players (both avatars and player-characters), Isbister argues, serve as “the player’s puppet in the game world, but the puppet also ends up affecting the puppeteer” (ibid.). In the case of Amicia, not only does she affect her

“puppeteer,” she is the one dictating to players where to go and how to act. We are in Amicia’s world, and we are the ones who follow. A possible reading to Amicia’s statement, “Is that your only ambition for me? To follow?” is that her protest against the role of a puppet (of players or patriarchy) is also directed at players.³ Amicia needs to protect Hugo, and we must act accordingly to fulfill her wish.

As demonstrated by the autonomy map (Figure 23) presented in Chapter Four, players’ autonomy is most limited in linear, narrative-based games. At the same time, player-characters operate within these stories according to their agenda. This is most apparent in *A Plague Tale*. Throughout the game, Amicia operates according to her design, following the script she was “given” by the writers, often communicating to players that there is no other way to overcome a challenge. Even if players preferred a different solution, clearly visible in the environment, the game would not allow it, sacrificing autonomy in favor of characters’ drama and growth within the narrative frame.

In one sequence, for example, Amicia and Hugo reach a small farm in search of Laurentius, the alchemist who aided Beatrice in finding a cure. That is where we first meet Lucas, the alchemist apprentice, nursing his master, who got infected by The Bite. The way to the farm is horrifying, as the road is covered in pigs’ carcasses, slaughtered by the Inquisition to slow the rats’ progress. Before entering Laurentius’ dwelling, Hugo sees a live pig. He runs wholeheartedly to the animal. “Oh!... You’re still alive... I’m sorry about you friends...” he says. We know Hugo was isolated most of his life, deprived of normal children’s experiences. His excitement is genuine and moving, and players share with him this rare, pure moment of joy in an otherwise gloomy setting.



Figure 36: Upon reaching Laurentius' farm, Hugo is thrilled to meet a friendly pig and greets it.

To leave the farm, however, players must go through a barn infested with rats. The game allows only one solution for clearing the barn: using the pig as bait to lure the rats. Players must submit to Amicia's plan. Using a sack of grains to lead the animal into the barn and close the gate, locking the pig inside. Hugo is excited, "Make sure you chew properly or you'll get stomach ache!" he says happily, believing Amicia is simply feeding the animal. Two lanterns near the entrance prevent rats from coming closer to the pig. "Hugo, er... Look away please," Amicia asks. The boy does not understand. "Why?" he asks. From afar, we use the sling, taking out one lantern. Hugo, confused, demands Amicia to stop, demanding *us* to stop. But we must execute Amicia's plan. "I'm sorry Hugo..." says Amicia, almost on our behalf. We take out the remaining source of light, rats swarm at the helpless pig, devouring it alive as it cries in agony. "Stop!" Hugo begs us, "They're eating it! It's still alive!". "We have no choice Hugo. We have to get the rats away..." Amicia replies, reassuring us that her plan was the only way. But for our five-year-old companion, it does not matter. "It's horrible... You're just like all the others!" he cries.



Figures 37: Players must use Amicia's sling to take out the lanterns protecting the pig.

Restrictions are also formed to support the game's pacing, which the designers carefully crafted, limiting players' ability to alter how scenes are constructed. In narrative-based games, the pacing is central to maintaining the story's tone, and in *A Plague Tale*, it means that sometimes the player's movement speed is limited or invisible barriers are formed to lead players into the next section of the story. Amicia supports the design, "suggesting" players what to do or where they should go next, but as discussed extensively, the challenges of interactivity can sometimes disturb the pacing. Lebowitz and Klug argue that a story's pacing can be compared to the flow of a river.

Big twists and exciting events are like rapids or fast-moving sections; parts of the story in which the characters relax or engage in unimportant activities can be thought of as slow, calm sections. For proper pacing, you need both fast areas to excite players and keep them interested and slower sections in which you can focus on character development and give the player a chance to unwind (Lebowitz and Klug 2011: 72).

A Plague Tale has no shortage of thrilling set-pieces, as well as a slower section allowing players to learn more about the characters and the world. It can balance its pacing masterfully, yet

interactivity poses challenges even within its rigid structure. In one section, for example, the siblings have to enter a boat and cross an underground pond. An indication for a button prompt appears near the boat, meaning we can get close and trigger an action allowing Amicia and Hugo to step in. Approaching the boat, before we press the interaction button, Hugo asks, “Shall I get in?” It is a peaceful scene in a beautifully illuminated cave, allowing Amicia and Hugo to slow down and unwind, acting as sister and brother. The designers almost ask us to take our time and look around. Amicia tells Hugo of a time their father took them to the lake, where she slipped and fell in the cold water, making her brother laugh. “It’s a story driven adventure,” Renard explains, “the game was tuned in order to preserve the story and make it a fluid experience” (Choteau and Renard 2019: 17:20).



Figure 38: Amicia shares a memory of a family trip with Hugo, making her brother laugh.

There are no rats around, no guards pursuing us. However, suppose players rush to the boat and press the interaction button. In that case, it will trigger Amicia’s pre-scripted response, “Yes Hugo, get in,” before the boy asks permission (which he goes on to ask anyway, according to the sequence script). It is a subtle interference in the game’s pace, negatively impacting immersion and

cracking characters' believability. The game does not allow for many of these instances, where the well-crafter pacing is primarily maintained by limiting the player's autonomy.

Players are much more involved during action sequences, simultaneously impacting and being impacted by these sections' emotional weight. Placing Amicia in an unfamiliar setting where she must protect her younger brother, whom she hardly knows, forces her to act in ways she never imagined, meaning that players ought to act accordingly. Throughout their journey, Amicia must kill to defend Hugo. We witness her painful transition from an innocent noble girl to an older sister who will fiercely protect her brother. The team placed much attention on this process, on Amicia's transformation. "We knew she was not a warrior," says Renard, "It was all about the way she was going to evolve, for example, her connection to violence. So we put a lot of effort into the details of how she's going to experience her first kill. . . it brought a lot of realism to the game and it helps the empathy" (Choteau and Renard 2019: 29:10 – 29: 25). Players are usually so accustomed to the mindless killing of countless NPCs in games, that it becomes almost inconsequential. It is never the case in *A Plague Tale*, partially due to how gruesome deaths are depicted, accompanied by sharp non-diegetic sounds, but mainly because of Amicia. It is evident that each time she encounters or inflicts violence, she loses part of herself. "I... I didn't want to..." she cries and covers her face after killing a man for the first time.



Figure 39: Amicia, shocked, covers her face after killing a man for the first time.

Even after we gain abilities that help us defend Hugo from most enemies effectively, Amicia reminds us later in the game of the horrors she bears, of the price she paid to protect her brother. Dedeine, the game's creative director, addresses this subject as part of the game's theme of loss of innocence. "Killing adults as a child is not an innocent subject; it gave us the opportunity to build a strong identity. Maybe it will not please everyone, we understand that, but it does not matter, we don't want to dilute our vision" (Dedeine in NeoGamer 2020: 5:50 – 6:00). This is a revealing comment, demonstrating the designers' commitment to the story and its characters, asking players to commit as well, to accept Amicia's actions, to follow her instead of leading. It is the essence of every fictional work, but video games operate on multiple levels when acting on behalf of a player-character. Lebowitz and Klug remind us that the most important thing to realize is that in any game, "the player can do only things that the designers, programmers, writers, and other creators accounted for when crafting the game. Similarly, the game can respond to the player only in a set of predetermined ways" (Lebowitz and Klug 2011: 35).

A Plague Tale triggers a strong emotional resonance based on its narrative, but acting as the player-character within this narrative adds a layer of involvement. As discussed by Isbister, game designers have adopted and adapted the technique of using a character's perspective as the primary point of view for grounding a player's identification with in-game events (Isbister 2016: 11). Players controlling characters, she adds, project themselves into the character on four levels: Visceral (building skill and strength over time), cognitive (actions enabled through designer choices such as mechanics and outcomes), social (inhabiting the character's persona to try out social qualities different than our own), and fantasy (all the design choices allow players to explore alternate fantasy selves through actual in-game performance) (ibid: 11 – 13). Isbister argues, "This joining of player to virtual self through avatar-based action marks a core innovation that games

have brought to media, and an extremely powerful one for evoking emotion” (ibid.: 13). Hence, should we not consider an emotional projection or perhaps repurpose (or simply interpret differently) the layers suggested by Isbister? For example, we can view Amicia’s growth not only in strength and skill but also in her willingness to embrace her role as Hugo’s caregiver, even if she fails and disappoints him at times. We can consider how she sacrificed her innocence to protect her little brother.

Early in the game, Amicia often scolds Hugo, even pushing him away at times. She is desperate and confused, clearly clueless about how she should behave with her little brother. In time, their relationship strengthens, and she becomes dependent on her brother no less than he is on her. His safety and wellbeing become her only motivation to carry on, often reminding herself, and us, that everything she does is for her brother’s sake. Players vicariously embody Amicia’s ideals of perseverance and heroism, and the game masterfully plays with environments to explore themes as nuanced as regret, reminiscence, and the loss of innocence.



Figure 40: Amicia, surrounded by corpses, must sneak through the city to find a book with a recipe for Hugo’s cure, reminding herself, and us, that it is “all for him.”

Amicia, in hoping to protect Hugo, lies to him about their mother's fate. The boy learns of it and feels betrayed. He runs away, hoping to reunite with his mother. In her desperation to find her brother, Amicia stumbles into a pit and loses consciousness. In a chapter titled "Penance," we play through a dream/hallucination sequence, experiencing Amicia's inner struggles and conflicts. We witness her deepest fears of losing Hugo, the guilt for everything she had done, all the lives she was forced to take. Her fears transcend fiction and bleed into our reality. We, acting on her behalf throughout an excruciating journey, know how far Amicia went to protect Hugo, and how her bitterness gradually pushed him away. We also learn how much she needs him, and through Amicia, his absence at her/our side frames the meaning and impact of companionship in narrative-driven games.

Jonne Arjoranta presents a comprehensive exploration of narrative tools in video games, where he discusses how narratological concepts can be applied to games for creating meaning-effects, cognitive responses usually stemming from textual stimulus but can analogously be caused by a stimulus from a video game, supported by different storytelling methods. Most relevant to our case is Arjoranta's adaptation of focalization to discuss players' perspectives through their player-characters, divided into external and internal focalization, with the difference being whether there is access to the characters' thoughts and emotions. External focalization, Arjoranta explains, "gives a behavioristic view on the characters," while internal focalization "allows access to their mental landscapes" (Arjoranta 2017: 700).

External focalization is typical to video games, with the story being told from the perspective of a protagonist. However, even if players are granted control over the character's actions, they do not have access to its consciousness (ibid.: 701). Internal focalization, Arjoranta explains, can be achieved in games by presenting an internal dialogue or describing a character's

experiences in different modalities. For example, games may describe a character's internal state "by suddenly removing player control and having the character act regardless of the player's wishes, perhaps in a harmful or destructive manner," limiting autonomy which "can be used to highlight the player's helplessness in the situation" (ibid.: 704).

"Penance" draws players into Amicia's troubled mind. However, we are not observing her reliving painful memories from her journey; we are participating in the hallucinating state, disoriented as she is, while experiencing visions of places and people she met (or killed) along the way. We hear Hugo in the distance and follow his voice. Laurentius appears, asking Amicia where the boy is. "He's gone," she cries, but the alchemist does not offer her comfort, "I knew this would happen," he says. "I did take care of him!" Amicia insists. "Then why did he leave?" asks Laurentius. "I don't know! I... I did everything I could to protect him! Even... Horrible things..." We are forced to reconsider our relationship with violence, Hugo, and even Amicia. Was there anything we could have done differently? Were there any alternatives to the linearity of the game's narrative? Could we disobey Amicia, or were we so occupied protecting Hugo, that we might have neglected to protect her from herself?



Figure 41: Amicia's hallucination chapter, arriving at Laurentius' farm, surrounded by pigs' carcasses.

“It is easy to spill blood! But to love... To protect...” Laurentius says, but Amicia interrupts, “I’m going to find him!” she says, and we dive deeper into her shaken mental landscape. She reaches her home. Beatrice is there, blocking the way to Hugo’s room. We see him playing behind her, yet Beatrice does not let us through. “I did everything,” Amicia explains, but her mother accuses her of hiding the truth from her brother. “His emotions Amicia! I’ve warned you!” Amicia demands to see Hugo, yet Beatrice tells her daughter, “He doesn’t need you anymore,” before letting her pass. Amicia faces her brother, asking why he left her. “Why didn’t you tell me mummy was alive?” Hugo asks, not accepting Amicia’s explanation that it was for his own good. “You didn’t want me to know! You’re jealous, jealous! Let go of me!”



Figure 42: Hugo rejects Amicia in her hallucination, blaming her for lying to him about their mother’s fate.

We are led to believe her nightmare is over. We rescue Hugo, only to lose him again, realizing Amicia’s penance is not yet over. We follow him into a rats’ nest, black substance surrounds Amicia, yet Hugo runs ahead, untroubled by its presence. “Hugo! I need you!” she shouts into the void, as the rats’ nest turns into a tunnel of dead soldiers and deformed bodies. “Stay with us... You’re one of us now” the voices of the dead call at her. Amicia struggles to advance, trying to silence the voices, demanding they let her go. “Stay with us... You took our lives...” they hurl

at her. She pushes forward, not holding back anymore, “I did it for him! And I’ll kill you again if I have to! I’LL KILL ALL OF YOU!” Her scream pierces the darkness. Hugo is lost, taken by Nicholas, the man who murdered her father. A black sea of rats swallows Amicia as she wakes up.



Figure 43: The final act of Amicia’s penance, facing the horrors of the world and her actions. Protecting her little brother justifies it all.

This haunting sequence demonstrates the impact of a narrative-based rapport, intensified by the role of the player-character. Leading game scholar Miguel Sicart argues that with player interactivity, our conventional understanding of authorship gets challenged (Sicart 2013: 65). Players, he adds, are actively reconstructing information, bringing their values into the magic circle, so authorship becomes distributed (ibid.). We are both spectators and initiators of the companionship between Amicia and Hugo, allowing us to form personal projections, integrate, and amplify volition despite our lack of freedom. We identify and reflect on ourselves, our interests, our values, and our relationships. Simultaneously, we can construct our subnarrative, hoping the game will support it and offer choices, or at least feedback and consequences to accommodate it. Ultimately, however, we are players in Amicia’s story, a story about a little boy lost, and his sister who will do anything in her power to save him.

Hugo

Father, father, where are you going

O do not walk so fast.

Speak father, speak to your little boy

Or else I shall be lost,

The night was dark no father was there

The child was wet with dew.

The mire was deep, & the child did weep

And away the vapour flew

(The Little Boy Lost, a poem by William Black, 1789).

Part of a collection titled *Songs of Innocence*, Black's beloved poem *The Little Boy Lost* was used in *A Plague Tale* promotion video upon the game's release. The reading by acclaimed actor Sean Bean is accompanied by images from the game, perfectly illustrating Amicia and Hugo's journey through a war-torn medieval France. As the video description reads, "Much of William Blake's material shares *A Plague Tale*'s themes of childhood innocence and loss, serving as a source of creative inspiration for the team when developing the game" (Focus Entertainment 2019). Loss of innocence is interwoven in the characters' development in *A Plague Tale*, shaping their arcs and the course of their relationships with each other, as well as with players. While Amicia's experiences are undoubtedly harrowing, the character impacted most by this theme, is Hugo.



Figure 44: Players first meeting with Hugo, the game's main companion.

Players gradually uncover the source and nature of Hugo's illness. Lucas, who learned of Hugo's condition through his master, explains to Amicia that the boy carries an ancient disease that lain dormant in certain noble bloodlines. It is known as the "Prima Macula" ("First Spot" in Latin), and we later discover it can be traced back to the Plague of Justinian in the sixth century. Its connection to The Bite is unclear, but we learn that Hugo serves as a carrier and that the Macula has awoken in his blood, with Beatrice and Laurentius trying to slow its progress and keep Hugo hidden. The Inquisition, led by Grand Inquisitor, Vitalis Benevent, learns of its existence and seeks the boy relentlessly, wishing to harness its power for their own use.



Figures 45 & 46: Amicia (and players) learn about Hugo's condition from Lucas after the three escape the farm.

The Macula, Lucas explains, is not good nor evil; it evolves with its host “to change things,” hinting that its impact on the game will be shaped alongside Hugo. Early on, it affects the boy in several ways, triggering crippling seizures to the point where he can barely stand or walk on his own. The game uses these attacks at scripted moments to create tension or affectionate interactions between Amicia and Hugo, narrative bits that shed light on their emotions and relationship. Hugo experiences one such seizure when escaping through the gardens with Beatrice. The players can only observe as the mother aiding her son to overcome its crippling effect. The next time, however, we are alone with Hugo and just as clueless as Amicia regarding how we should respond. “I... I don’t know what to do Hugo... What would mummy do?” she asks, deciding to carry him, “That’s the best I can do,” she apologizes. When carrying Hugo, Amicia moves clumsily, unable to sprint, a mechanic that forces players to submit to the slow pace, simulating Amicia’s burden. “I miss her,” says Hugo, referring to his mother as Amicia carries him. “At least you were allowed to see her...” she replies quietly.



Figures 47 & 48: Hugo experiences his first seizure in the presence of Amicia (left), who is unsure how to act. When carrying him (right), she mumbles, “At least you were allowed to see her,” referring to her mother, with whom she barely spent time.

It is a scene that perfectly illustrates their relationship: they are more strangers than siblings, and the resentment Amicia holds surfaces at times, clashing with her responsibility to protect her brother while trying to get to know him. Hugo also struggles, being accustomed to his mother's affection and care, not knowing much about his caregiver and the world outside his playroom. He is a curious five-year-old boy who sees the world for the first time, and despite its ugly state, he often finds fragments of beauty in it, which can irritate Amicia. Interestingly, Hugo's isolation serves a similar purpose to Elizabeth's, who was locked up most of her life. It is a narrative tool that allows players, as outsiders, to experience the world organically via the player-character, but through the companion's eyes. It is less intrusive than cut scenes and more thematically believable.

As mentioned, the two move together as one unit throughout the game. Mechanically, players can instruct Hugo to "stay" or "join" during specific gameplay sections, but this is not a constant mechanic and is mainly used to solve environmental puzzles. For example, Hugo can fit through narrow openings, which Amicia cannot. The game often presents scenarios where Amicia must ask her little brother to go through a hatch or a narrow window to obtain an item or unlock a door. These simple mechanics are scripted and executed with a single button press according to on-screen prompts.



Figures 49 & 50: This simple mechanic asks players to respond to an on-screen prompt to trigger a scripted action by Hugo, who needs to obtain a branch from behind the wall.

They do, however, create tension. We are so used to having Hugo by our side that stripping him from Amicia evokes a sense of uneasiness. Amicia hesitates whenever she asks her brother to perform a risky task, and we, submitted to the narrative, do not know if our actions might result in him getting hurt or lost. Amicia communicates these fears regularly. “Sorry, I shouldn’t have left you alone. It’s too risky...,” she tells him after they get separated for a short while. However, she expresses how proud she is of Hugo’s courage in such instances. Asked to retrieve a branch from behind a wall fence to use as a torch, she complements the boy, telling Lucas, “Hugo did the hard part!” as the group advances, thanks to the boy’s efforts.



Figures 51 & 52: After retrieving the branch, a button prompt appears on Hugo (left), signaling players to take the branch. After advancing, thanks to Hugo’s efforts, Amicia complements her brother (right).

Hugo’s naivety and curiosity lead to some of the most intimate interactions between him and Amicia, but also to ones revealing how little she knows about her brother and how little patience she has for his credulousness early on. In addition to the mechanic discussed earlier, Hugo sometimes let go of Amicia’s hand whenever he is in a playful mood or finds something interesting — in other words, acting believably as a child of his age. Most of these are scripted moments embedded in the linear narrative, but others only trigger if Amicia (and us) lead Hugo towards

points of interest. At the beginning of their journey, Amicia often scolds Hugo for his curiosity. Intrigued by the white X marks on the village doors, Hugo runs towards them. “Come back here! That means there are sick people in these houses!... Stop running around!” she demands. Players can find a small lake if they stray off the path leading to the farm. Hugo sees bubbles at the water’s surface and sits by the dock, eager to discover what lies beneath. “We don’t have time for this right now, come on,” Amicia impatiently asks him. Later, the two reach a small vineyard. Hugo, excited, runs and hides between the vines, hoping his sister will join in his game. Even if players wish to be playful and spare a moment to entertain Hugo, Amicia cannot allow it. She knows of the dangers looming at every corner. “Do you really think this is the time to be playing games?” she asks. Hugo apologizes quietly, disappointed. Amicia must keep him safe, and we ought to comply.



Figure 53 & 54: Scripted events where Hugo runs off to play or explore the environment, triggering Amicia’s impatient response.

In contrast, scripted gameplay moments also produce some of the most emotional and uplifting interactions between Hugo and Amicia, rewarding players for exploring the environment for objects and items that trigger such interactions. These moments were designed after the team

had realized they had very few gameplay moments that support the relationship between Amicia and Hugo. Choteau explains:

Nothing was really building up in terms of their relationship [through gameplay]. Everything was going through cinematics. It's not as good as doing true-to-gameplay. It's better to convey emotions when you're playing it than when you cannot control it fully, because to take control of the character, it was impossible to add more of these moments (Choteau and Renard 2019: 10:00 – 10:30).

The team was looking for an interaction that can spawn from exploration, but also one that fits the narration. As mentioned, one of Hugo's pleasures in solitude was receiving flowers and learning about the different types and the stories behind their names, keeping his own herbarium. At some point in the development, one designer suggested it can be something Hugo shares with Amicia, even though it is "not her thing," explains Choteau. "It would be a touching moment where they are together, very close, touching each other in a different way" (ibid.: 10:40 – 10:47). In almost every chapter of *A Plague Tale*, one type of flower can be found. Some are in plain sight, while others require closer observing the environment. When spotting a flower, Hugo will run to examine it.



Figures 55 & 56: If players stray slightly off the main path, Hugo will spot a flower and run to examine it (left). Once players get near, a button prompt appears, signaling they can trigger an interaction (right).

A button prompt appears above the flower, allowing players to trigger a short cut scene where Hugo picks the flower and places it in Amicia's hair, telling her a story about its merits or the origins of its name. Amicia is reluctant at first, "Hugo, we have to keep moving..." she tells him the first time he finds a flower. "Wait wait... Come here!" he urges, Amicia gets closer, Hugo places the flower in her hair. "It will protect you," he says, "and it's pretty too." Amicia, not used to such affection, hesitates. "Oh... Alright," she says, "Thank you Hugo." The team laughed at the idea at first, thinking it might be "too cheesy." Considering the personality and believability of their characters, however, they soon realized it is a brilliant mechanic, executed during gameplay within the narrative frame, pacing and supporting character building. It is "something children can do," says Choteau. "When you go in the forest with a child, they often collect flowers and give it back to you. to their mother, the father, it's something like that. It's life, it's not cheesy. It's life" (ibid.: 11:50 - 12:00).



Figures 57 & 58: Once players trigger the interaction, Amicia asks Hugo, "You know what that is?" and he replies, "Hawthorn, I think. Nobody likes it because of the thorns, but it's good for the heart." He places it in Amicia's hair, who complements him, "Well aren't you a fount of knowledge." He says, "Mummy taught

me,” and Amicia asks him to teach her. “And will you teach me how to use the sling?” Hugo barter. “It’s a deal...,” she replies, and they continue their journey.

Players who want to learn more about these flowers can find information in a codex menu under “Hugo’s Herbarium.” It is a common feature in many games that implement a “collectible” mechanic. Players can find journals, letters, or other storytelling items that provide additional information on the game’s world that can be further explored in non-diegetic menus.



Figure 59: In the codex menu, under “Hugo’s Herbarium,” players can find additional information on all the flowers Hugo collected.

Few, however, integrate these into the narrative in meaningful ways. As they go on in their journey, Amicia asks Hugo to teach her about the flowers he finds, happily accepting his gesture of decorating her hair. Visually, flowers will appear in Amicia’s hair throughout the chapter, a reminder of an intimate moment the two shared, often contrasting the dark and melancholy environment. It is a subtle visual flair that adds depth and additional meaning to any scene or interaction that follows. For example, early in their journey, Hugo finds an Aquilegia at Laurentius’s farm, and while Amicia hesitates at first, she accepts his gift. Later on, players must take out the lanterns that protect the pig. While it does not impact gameplay, the flower in her hair

(see Figure 37) is clearly visible as we aim her slingshot and take the shot, intensifying the sense of guilt and emotional impact of the scene.

In a different chapter, shortly after Hugo finds a Hawthorn (see Figures 57 and 58), he experiences one of his seizures. The attack triggers a short cut scene, where Amicia reaches her brother, holding his head in pain.



Figures 60 & 61: On the right, the cut scene where Amicia reaches her brother to assist him, the Hawthorn in her hair a reminder of the tender moment they shared a few moments ago. On the right, the same cut scene, but in this case, player followed the main path and did not collect the flower, resulting in a different emotional weight carried by the scene.

At this point of their journey, Amicia shows more empathy towards her brother and does not hesitate to carry him on her back. The exact same scene is triggered regardless of whether players strayed off the path to let Hugo find the Hawthorn. The only difference is the thorny flower in Amicia's hair when she kneels next to her brother, a reminder of their shared moment and the promise she made him. She carries Hugo, and the boy mumbles, "Sorry," as the Hawthorn peeks from behind him. Amicia replies, "Don't worry," as they make their way up the hill.



Figure 62: The Hawthorn is visible in Amicia's hair as she carries Hugo on her back.

This storytelling mechanic also deepens the dramatic moments where Hugo is separated from Amicia, due to his illness or after he escapes and is captured. In these chapters, when Amicia finds a flower, she refers to her brother, accentuating his absence. Alone with Melie, Amicia sees a lavender. “Are you off to a ball or something?” Melie teases. “It’s my brother...” Amicia replies, he likes putting them in my hair.” Or, finding a daisy while searching for a cure for her brother, Amicia says, “Bring me luck, we’re doing this for Hugo.” None of this, however, provides any advantage for gameplay. Flowers do not upgrade any states, nor can they be used for crafting items. The impact and value of this mechanic in *A Plague Tale* serve one purpose: to provide Amicia and Hugo an opportunity to get to know each other slightly better, to get a bit closer. For players, it blurs the line between the string and the pearl, a reward for straying off the path, even if Amicia will protest that it is not the right time.

The flower mechanic is a unique gameplay aspect in our interaction with Hugo. However, considering how scripted his actions are, the interactions with Amicia, and the fact he is physically bounded to her during exploration and most gameplay sections, one might ask if his believability based on attributes discussed in this study is not compromised or even lost. The development team struggled to decide the best approach for the main companion’s design. Kevin Choteau, the game’s

director, admits that managing two characters is “a nightmare” (Choteau and Renard 2019: 1:34). Asobo Studio’s projects prior to *A Plague Tale* were mainly ports or licensed Pixar/Disney games, and the small team did not have much experience (or resources) to develop a robust companion AI system. As Choteau explains, there were two possible paths: one was trying to develop a full AI (referring to Elizabeth as an example), but the team recognized the challenges of implementing companion AI for the entire length of the game, deciding on a different approach. By placing Hugo alongside Amicia, holding hands (not surprisingly, referring to *ICO* as an inspiration), they had to manage only one character (ibid.: 1:55). This link, Choteau adds, serves the narrative: “Sometimes Hugo will drop Amicia’s hand to go and see something, and it is interesting in terms of emotions” (ibid.: 2:10 – 2:20). The link between them, when suddenly severed, even if momentarily, creates the strong bond the team wished to convey.

From a storytelling perspective, Choteau and Renard agree that it can be easy to betray their characters for the wrong reason, something Renard, the narrative director, admits he was guilty of several times (ibid.: 30:36). Asked to provide an example, Choteau discusses a scene where Amicia, Hugo and Lucas walk on a riverbank. “When you wrote the first lines for that,” He tells Renard, “Hugo was talking about the meta-story, he would say, “Why am I here, why does he do that? Why do we need to go to the Chateau?” But that’s not a five-year-old boy. It’s too mature for a boy like that. A five-year-old would talk about what he’s seeing. Like what you notice on the shore, in the morning, there’s frogs, there’s birds, a beautiful panorama. That’s what a child will do, so now he’s running away and playing with the frogs and they’re not talking about the story at all because it’s not something that he would do” (ibid.: 31:30 - 32:15).

It is a memorable scene, mainly because it follows a few of the tensest interactions between Amicia and Hugo. After realizing Laurentius could not provide them with help or shelter, Amicia

is desperate, and in the heat of the moment, she pushes Hugo away, yelling at him, “Leave me alone!” The boy, frightened, keeps his distance, refusing to hold Amicia’s hand afterward. The scene with the pig follows, aggravating the tension between the two.



Figures 63 & 64: Amicia pushes her brother off her, yelling, “Leave me alone!” (left). Hugo, frightened, backs away, unwilling to hold Amicia’s hand for the remaining of the chapter.

After making their escape with Lucas, the three arrive at the riverbank at dawn, providing a welcome change of scenery after the horrors of Laurentius’ farm. “What’s that noise?” Hugo asks. “Nothing... It’s just frogs Hugo!” Amicia replies, still shaken by learning about Hugo’s condition from Lucas. Nevertheless, the boy is excited, “FROGS! Ha ha!” he laughs, running towards the croaking sounds. “Look! They’re everywhere! Jump jump jump! Ha ha ha!” Amicia is concerned about the cold, but Lucas says Hugo seems to keep himself warm. “Yes,” Amicia replies, “but he’s too far for my liking...” In contrast to the events at the farm, pushing her brother from her side, this short, intimate scene at the riverbank allows Amicia, and us, a moment of reconciliation.



Figure 65: Hugo hears frogs and runs ahead of Amicia and Lucas to find them. “He’s too far for my liking,” Amicia tells Lucas.

Renard agrees with Choteau’s observations: “It’s so true. And it’s interesting in this case because it’s basically the moment-to-moment experience of the player versus my desire to tell something about the meta-story, and I wanted to make sure they would understand what was going on. But in this case, it wasn’t a good idea, because it is breaking the character” (ibid.: 32:00 – 33:00). He goes on to share the challenges of telling the story through children’s eyes. “It’s not something I’m used to do, it’s not something I’m used to write. I needed time to get used to it, to find the proper tone and little by little it came... I would say naturally” (ibid: 33:05 - 33:15). Assisting in this process were Amicia and Hugo voice actors Charlotte McBurney and Logan Hannan, who are approximately the same age as the characters. The game’s publisher commented on their contribution, saying they had “their own approach to and opinions of these realistic, troubled characters. They were instrumental in the writing process, as they suggested dialogue additions and alternate takes to better fit the children they were embodying. As your constant companions throughout the adventure, their work is as vital as anyone’s to creating a moving, emotional experience” (Chalk 2019). Renard agrees, saying it was through the actors’ proposals to the script “that the characters really came to life” (Renard in NeoGamer 2020: 8:00).

The brilliant vocal performances of the entire cast, coupled with stunning visuals of both character models and the game's world,⁴ undoubtedly contributed to the game's emotional impact and the believability of the characters. In terms of storytelling, it was crucial to connect the narrative and the design, and to allow the characters, Hugo in particular, to act and behave according to their nature, creating a synergy between setting and gameplay within the linear narrative. Ultimately, Hugo's believability is framed within the context of his character. He is a five-year-old child surrounded by death and decay, pursued by the Inquisition and battling a mysterious illness in his blood. The game uses gameplay and cut scenes within the narrative to shape his character according to the setting. Surrounded by rats or trying to sneak past guards, it is easy to imagine that a young boy would clench his sister's hand, and she will ask to shelter him from the world around them. A boy his age will be curious and often get distracted by vistas or creatures he has never seen before.

The theme of innocence and loss are central to Hugo's development and his relationship with Amicia and the game's world. Choteau addresses this theme, asking, "How can a child grow up while exposed to such violence? What will Hugo's state of mind resemble at the end of the game?" (Choteau in NeoGamer 2020: 5:25 - 5:35). Early on, Hugo still has the innocence of a child, and his naivete is expressed when facing unimaginable terrors. Soon after he plays with the frogs on the riverbank, he finds a flower and places it in Amicia's hair. They go on their journey until a stench of death surrounds them. Lies before them is a battlefield covered with corpses, a reminder of a skirmish between the English invaders and the French army. They must advance through the field of the dead. Hugo holds Amicia's hand, the flower still in her hair. Hugo asks, "Do you think we're hurting them?" as they step over the dead bodies. We have no answer and must keep pushing

the controller stick forward, which the game deliberately reduces to a sluggish march between body parts and metal armor.



Figure 66: Amicia, Hugo, and Lucas must pass through a battlefield scattered with bodies of dead soldiers.

Passing the field, we find hanged soldiers with arrows piercing them. Hugo, horrified, says, “Urrgh... They’ve got sticks in their tummies,” and Amicia, desperately trying to protect his innocence, can only reply, “Try to ignore everything you see her, Hugo...”



Figure 67: Tortured soldiers hanged. Hugo, too young to process the horrors he witnesses, naively comments, “They’ve got sticks in their tummies.”

Such scenes, organically embedded in gameplay sections, form a believable companion framed within narrative-based interactions, demonstrating the range of techniques and methods games can implement to form rapport and meaningful companionship. Hugo matches the attributes video game characters should display to appear believable, as discussed throughout this study:

1. Hugo's rich and unique personality is often displayed through his interactions with the world and reaction to events, either during gameplay or in cut scenes.
2. Hugo's young age, personality, and background dictate his emotional reactions to sights and events (confusion, fear, disgust, excitement, curiosity).
3. Hugo's self-motivation is limited due to his young age. However, he displays his will within the narrative context, deciding to leave Amicia and find his mother. During gameplay, he would often run if there were things in the environment he found interesting, even against the player's will.
4. Hugo is obliged to change as part of the loss of innocence theme. However, he remains loyal to his values and love for his mother and, with time, to Amicia. He shows growth in character as he goes through a significant transformation due to his illness and more subtle changes, becoming more resilient to the tragic events he is forced to endure.
5. Hugo forms close relationships with other NPCs, especially Rodric and Lucas. Although these interactions are scripted and presented mostly through cut scenes, they align with his character and support his growth as he gradually learns to act around others after years of solitude.
6. The game often focuses on Hugo's expressions in close-ups or his body language during gameplay to convey his emotional and mental state. Coupled with superb voice acting and writing that successfully captures the personality of a young child in a harsh environment,

Hugo is a believable character that displays many of the features constituting the illusion of life.

Hugo's condition gradually aggravates, but with Lucas's assistance, Amicia manages to find a cure and contain its progression. There are several "thresholds" a carrier of the Prima Macula passes, eventually allowing one to control it and its mysterious power. In *A Plague Tale*, this means the ability to control the rats. After Hugo overhears that Beatrice is alive, he confronts Amicia, who insists that their mother is gone, not wanting to risk her brother. Hugo feels betrayed and leaves the abandoned castle the party had made their home mid-through the game. He soon falls into the hands of the Inquisition, which holds Beatrice captive. To protect his mother, Hugo must obey, and Vitalis mixes the boy's blood with his own to obtain the Macula himself. After Hugo is captured, players get to play as him for the first time as he tries to escape and rescue his mother. He reaches his mother's cell and, with her aid, learns how to control his newly acquired power, translated mechanically to controlling the rat swarms.

Vitalis, however, also learns how to control the Macula, and recaptures Hugo and his mother. The Grand Inquisitor persuades Hugo that Amicia betrayed him and their mother, turning the boy against his sister. As part of his indoctrination, Hugo, accompanied by the guard captain, Nicholas, is sent to find and kill Amicia. The abandoned castle is swarmed with rats, but they do not attack. Two figures appear among them, Nicholas, the man who killed Amicia's father, holding her brother's hand. The gesture players become so attached to is now violated.



Figures 68 & 69: Nicholas holding Hugo's hand, commanding him to unleash the rats at his sister.

“Kill her, or I will kill your mother in front of you,” Nicholas commands. Hugo, almost in a state of trance, does not respond to Amicia's pleas. Players can only retreat, slowly pacing backward as Hugo and Nicholas close on them; all the while, the man urges Hugo to act. Arthur, the twin thief, manages to topple a pile of rubble over Nicholas, and Amicia faces her brother and his rats, more menacing than ever. Black veins cover the boy's face, “You lied to me!” he yells. “Hugo... I was trying... to protect you!” she begs to no avail, much like in her nightmare, as Hugo unleashes the swarm at his sister.



Figures 70 & 71: Hugo, with the ability to control the rats, confronts his sister about her lies, thinking she wants to keep his mother away from him (left). In his anger, he unleashes the rats, but Amicia runs and embraces her brother (right).

Yet Amicia does not drown this time; she runs towards her brother and holds him close. Rats surround them, engulfing the siblings in a black mass. Hugo, awoken, recognizes his sister. The mass dissolves, and the rats scatter. Hugo's transformation is complete; he gained full control of the rats, but it is unclear what price he had to pay.



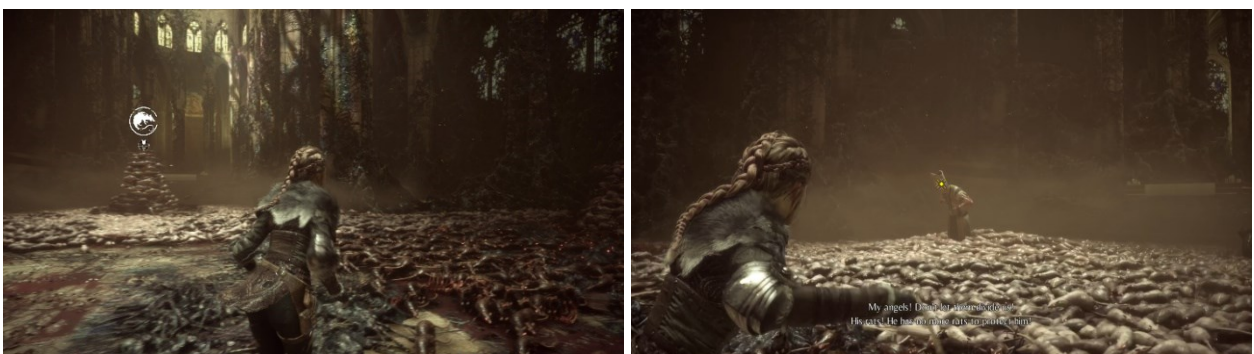
Figure 72: Amicia holds Hugo as he regains consciousness.

This moment transforms gameplay moving forward, becoming the core component of the interaction for the game's final chapter (not including the epilogue). *A Plague Tale* uses narrative as the primary rapport component, supported by mechanics like flowers and scripted interactions. Once Hugo learns to control the rats, they turn from the game's most horrific element to our most valuable tool in defeating the Inquisition. While some mechanics required coordination between Amicia and Hugo, these were all scripted moments not fully controlled by players. The rats' mechanic, however, can be triggered freely, added to our "action/item wheel," a new ability we can use with Hugo by our side.



Figures 73 & 74: Once Hugo gains control over the rats and the siblings reunite, this mechanic is added to Amicia's action wheel, inverting the way gameplay is executed.

Thematically, it is Hugo who triggers it upon our/Amicia's request, and we must coordinate our actions to allow him to use his power. Throughout the game, any light source was our greatest ally, as we were frantically trying to find the closest fire or torch. This gameplay dynamic changes drastically, as players can now move freely among the rats, protected by the deadly rodents. Light is our enemy now, and Amicia must extinguish fires and torches to allow Hugo's rats to advance and attack the Inquisition guards. At this point, however, rapport is fully formed, and this empowering gameplay mechanic is our boon at the final stage of the journey.



Figures 75 & 76: The game's final act (before the epilogue) required Amicia and Hugo to coordinate attacks and defeat Vitalis. Amicia must clear a path for Hugo's rats, and as the action prompt appears, we can instruct him to unleash them at Vitalis (left). Once exposed, we can use Amicia's sling to attack (right).

Hugo and Amicia, accompanied by Melie and Lucas, reach the cathedral where Vitalis holds Beatrice. At this final battle, we must coordinate our actions with Hugo's, extinguishing braziers and asking him to send the rats to attack Vitalis, covered by mutated rats. Once exposed, Amicia uses her sling to hit and kill the Grand Inquisitor. She holds her brother close. We helped her protect her brother from the Inquisition, but something in Hugo's eyes hints that it is unclear if we were able to save him from himself.



Figure 77: Hugo states at Vitalis as the latter collapses. This ambiguous ending leaves players wondering how these events will impact Hugo.

Supporting cast

Although this chapter focuses on Amicia and Hugo's narrative-based companionship, it is important to briefly discuss the supporting cast, their role in the interaction, and their impact on the narrative. As previously discussed, the developers decided to limit Hugo's autonomy by "attaching" him to Amicia. However, the team implemented a simple companion AI with the remaining cast. Each companion plays an essential role in the narrative, their performance during cut scenes is impactful, and the bonds they form with Amicia and Hugo are meaningful and emotional. In terms of believability during gameplay, however, these characters are often reduced to a singular function,

acting more as gameplay tools than believable characters (some more than others). The simple AI also means they will mimic Amicia's actions, even if it does not make sense thematically. For example, if Amicia crouches at any moment, Hugo, who holds her hand, will crouch alongside her. The other companions are not attached to Amicia, yet even if there are no enemies around, they will crouch whenever players do, a simple act that leads to some absurd moments, resembling a sit-up-stand-up game, which can easily break immersion within the game's ominous atmosphere.

Each companion's ability is framed by its character and consistent with its background, but the implementation during gameplay is not as impactful as narrative-based interactions. Lucas, the first companion we meet, is perhaps the most developed, and his role is more cohesively integrated into gameplay. As an alchemist apprentice, he uses his extensive knowledge to teach Amicia how to craft valuable items necessary to overcome most of the game's challenges. He is also younger than Amicia, and is "attached" to her and Hugo when rats are around, resulting in the three of them moving together as one unit. Lucas's role is central to the narrative, and he is the only companion that stays with Amicia and Hugo after the siblings complete their journey.



Figures 78 & 79: Lucas, the alchemist apprentice, teaches Amicia how to craft alchemy-based projectiles (left). When surrounded by rats, he is automatically attached to Amicia (as Hugo does almost permanently), and the three will move as one unit (right).

Melie and her twin brother, Arthur, play a lesser role. The two are experienced thieves, translated mechanically to lockpicking (Melie) and distracting enemies (Arthur). Despite their limited integration during gameplay, they support the narrative in meaningful ways. Amicia and Melie, both familiar with the burden and responsibility of siblinghood, have much in common despite coming from different backgrounds. In a rare moment of honesty, Melie opens up to Amicia, telling her, “Listen... with Hugo... it doesn’t look easy, but believe me, it’s worth it... He will save you. They always end up saving us. Even if, you know, brothers, sometimes you just want to kill them.” The twins are committed to helping Amicia and Hugo defeat the Inquisition, but eventually, Melie’s brother Arthur pays with his life after heroically saving Amicia from Nicholas.



Figure 80: The twins Melie and Arthur. While they impact the game narratively, their gameplay-assigned abilities and applications are not as consequential.

Rodric is the last companion we meet. A blacksmith’s son, he is the group’s “muscle” and can take out guards by brute force. He and Amicia can execute synchronized takedowns: when a button prompt appears above enemies, players can instruct Rodric to attack while taking out a nearby guard with the sling, avoiding detection. It is a simple mechanic, one common in games with AI companions. Elevating these mechanics are some of the banters between the characters. “I

wish I was strong like that..." Hugo tells Amicia after watching Rodric neutralizing a guard. "Mate," Rodric replies, "You have an army of rats..."



Figure 81: Rodric's gameplay abilities allow players to coordinate simple attacks on enemies.

Rodric heroically sacrifices himself to protect Amicia and Hugo, pushing a cart and sheltering them from Inquisition archers. It is an impactful gameplay sequence, as players must coordinate their pace according to Rodric's, trying to protect Hugo while they move. A moving cut scene follows, revealing Hugo's affection towards Rodric.



Figures 82 & 83: Rodric heroically sacrifices himself to protect Amicia and Hugo from Inquisition archers.

As mentioned, the mechanics attached to most of these characters do not support rapport in a meaningful way. Nevertheless, the level of connectedness between Amicia and the supporting cast, framed by the narrative, mirrors the theme of companionship Asobo Studio wished to convey. The interactions between a group of children and teenagers create a unique dynamic, one which would have been shaped differently by the presence of an adult. Dedeine mentioned that the idea of a group of orphans appeared very early in the concept, which was vital for the exploration of the world of childhood the team wished to convey (Dedeine in NeoGamer 2020: 7:05).

Ultimately, even if not as effective as the main characters, these supporting characters fulfill their role: they support the narrative and provide a meaningful backdrop for Amicia and Hugo's relationship. They help reframe Amicia's character, who gradually embraces her responsibilities and paternal role not only towards Hugo but for the others as well. In addition, there are subtle hints that both Arthur and Rodric fancy Amicia, a reminder that love can grow even at the darkest times, adding another layer to Amicia's character. Klug and Lebowitz accurately note that a good story works on the player's emotions, "causing him or her to feel joy and sadness along with the heroes" (Klug and Lebowitz 2011: 115). However, for players to become emotionally invested in a story, "they have to connect with the characters, which is why it's so important to create deep and believable heroes and villains" (ibid.).

A Plague Tale is aware of its faults and shortcomings, which is why it relies so heavily (and effectively) on its narrative and cast of characters. Despite the supporting cast's limitations in evoking strong emotions through their mechanics, they excel in their narrative roles. As Tauriq Moosa discusses in his review, "These complicated young people have layers you experience throughout the game – of irrationality, jealousy, bravery, love. It's testament to the game's writing that no one, not even Hugo, is treated as a silly child. All have layers, all are truly believable"

(Moosa 2020). Asobo Studio created a cast of memorable characters loved by fans and critics, reflecting the small team's dedication and efforts. "You have to respect and love your characters," admits Renard, "in order for others to love them" (Choteau and Renard 2019: 30:00).



Figure 84: Companionship is one of *A Plague Tale*'s central themes, realized by its excellent cast of (mostly) believable characters and the emotional bonds they form.

Player-character and narrative-based rapport: conclusion

"Games and stories have much in common" (Sheldon 2004: 3).

This chapter focused on how rapport and companionship are formed, evolve, and maintained in a linear story, narrative-driven video game. The player-character, Amicia, shapes the experience and dictates the form, pace, and tone of most interactions according to, and consistent with, her design and role within the narrative. Players are both spectators and supporters/initiators of these interactions, but they follow Amicia, who displays a high level of autonomy supported by the linear and focused environments. The Game's visuals, sounds, and themes are all linked to mechanics and gameplay, built around the physical manifestation of the plague. However, the synergy between setting and gameplay ultimately serves the narrative Asobo Studio wished to tell its players and the emotional bond between Amicia and Hugo.

As demonstrated, that was not a simple process because, as explained by Renard, “at the beginning of the game the characters don’t know each other very well. It’s really not obvious for Amicia, the love is not there, so the whole story is about how they are going to create this bond through all the tension and obstacles” (Choteau and Renard 2019: 3:30 - 3:37). The team’s decision to focus on the narrative as the core of the experience was not initially planned, since they were not sure they could write “a story that was moving” (ibid.: 17:45), demonstrating the fluidity of game design and development. At first, the team invested in gameplay, “if we cannot tell a story at least we will have challenges,” Choteau admits. However, once they realized that the story was coming together and evolving, they had to tweak the gameplay to complement it and its pacing, resulting in a focused, carefully crafted experience. They knew that a linear and confined experience in an era of massive open-world games might not appeal to everyone, but they wished to “speak to the type of player who wants to live this kind of experience,” says Dedeine. “As a result, we have enormous freedom. It gives us the opportunity to make a game even closer to what we think some players search for and love today (Dedeine in NeoGamer 2020: 11:15 – 11: 33).

This design philosophy has proven effective for rapport-building, showcasing the validity of the LRI model in evaluating isolated components within an integrated structure. It allowed the developers to craft an experience that matches the player’s emotional state to that of Amicia, offering a unity of purpose and action in mechanical reinforcement that, while restricting the player’s autonomy, does not compromise volition. Applying the LRI model to *A Plague Tale* results in the following interaction map:

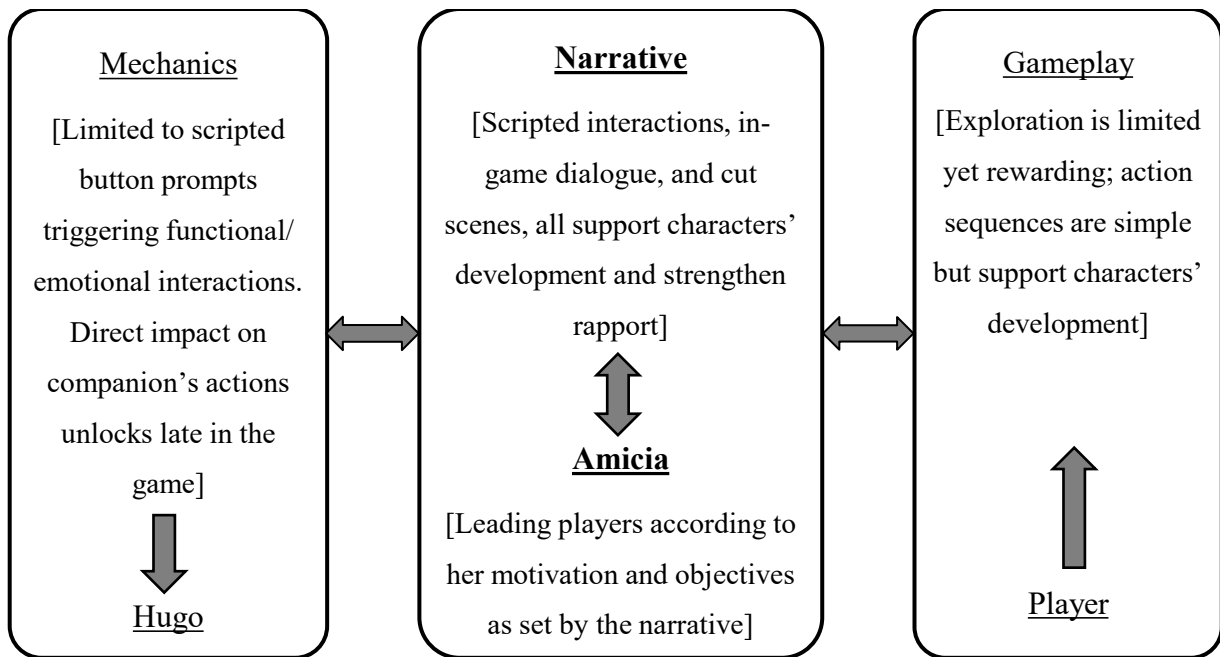


Chart 6: *A Plague Tale* interactions according to the LRI model. Narrative and player-character are the dominant component and participant in the interaction.

We can often find in stories moral instructions or social transmission of ideals. *A Plague Tale* communicates its themes through the player's participation and its characters' struggles, hardship, trauma, and heroism. Despite how tightly players are confined within its narrative frames, *A Plague Tale* creates catharsis not by aesthetically distancing players and player-character from its complex theme of troubled siblinghood and loss, but by incorporating player participation in the tragic drama. "Games and stories have much in common," argues Lee Sheldon:

Both deal with how we handle fear. Both can teach us about the world and ourselves.
 Both can challenge us, move us to laughter or tears . . . Each can exist separately from the other, and be consummately entertaining, yet there are also times when the two meet, feed off of one another, and grow into something greater than they were separately (Sheldon 2004: 3).

A Plague Tale: Innocence is one such case. A moving interactive tale marrying storytelling and gameplay to effectively convey themes of hope and despair, heroism and sacrifice. Above all, it tells an intimate story of a brother and sister trying to survive, slowly building their relationship. Players, whether by spectating a cut scene or triggering the next interaction, form their own bonds with the characters, a companionship we helped shape and are part of. We allowed Amicia to lead us throughout the adventure, unable to impose our will on the narrative. Nevertheless, by playing our role within their story, we allowed Amicia and Hugo to play theirs, grow, and, ultimately, learn to love and care for one another.

Before the siblings head to the cathedral for their final battle, Hugo finds the last flower in the game, sprouting beneath the city ruins.

“It survived all this?” Amicia wonders, amazed at the small flower’s resilience.

“Yes.” Hugo says, “It’s a warrior. It defends itself...”

“It’s like us then,” she replies.

“That’s right... It’s your flower,” says the boy, as he places it neatly in his sister’s hair.

Chapter Six:

Mechanics and companion in *The Last Guardian*

Most game scholars and game designers agree that game mechanics act as video games' building blocks. This often relates to the fact that games are rule-based, and mechanics determine the relationships between rules and performance, dictating what can and cannot be done in a game and forming the interface between player and gameplay. There are numerous discussions regarding game mechanics' function, value, and implementation. While some were discussed in Chapter One (in relation to rules) and Chapter Four (considering different scholarly perspectives), in this chapter, I will focus primarily on how mechanics, despite being considered as a subset of rules, are one of video games' most powerful methods of conveying meanings. After establishing this argument, a case study demonstrating how mechanics are contextually designed to form rapport is analyzed.

In the context of this study, I am primarily interested in the emotional meanings players draw from interacting with companions and consider how mechanics enable emotional interaction. We can now, for example, refer to the flower mechanic in *A Plague Tale* to better illustrate what that means. Despite how simple this mechanic is (executed with a single button press when a prompt appears), it was cleverly framed within the narrative (from which it drew its emotional impact) and implemented organically through gameplay. Depending on the game, mechanics can be used to achieve different design goals. Matthew Gallant discusses how game designers, despite wanting to make their games fun and engaging, only have direct control of the game's mechanics but indirect control of the player's experience (Gallant 2009). This observation demonstrates why mechanics are regarded as one of the most significant aspects of games (both analog and digital).

Suter et al., for example, are convinced that “the heart of a game is not artistic expression, aesthetics and beautiful assets or clever programming, but mechanics as the basic mechanical system of a game that creates the possibility of a (good and challenging) gameplay for the player and provides motivation” (Suter et al. 2018: 10). This is a bold statement, but somewhat problematic since, as discussed in this study’s opening, it is difficult (and perhaps even counterproductive for our understanding of the medium) to paint “video games” with such a broad brush. What if the gameplay is not “good and challenging” or is simply in service of the narrative? *The Walking Dead* game series focuses primarily on storytelling, with simple mechanics and gameplay, yet the challenge arises from the players’ choices according to the narrative. Or, for example, would the flower mechanic be as impactful if not for the characters’ believability, compelling writing, and the setting dictated by the narrative’s pacing?

Schell, for example, presents an argument that is not significantly dissimilar, saying that “game mechanics are the core of what a game truly is. They are the interactions and relationships that remain when all of the aesthetics, technology, and story are stripped away” (Schell 2015: 158). This statement, while acknowledging similar functions of game mechanics, leaves room for a broader, more holistic interpretation of how different components shape compositions that form different video games. When isolating components for the purpose of analysis (as in the case of this study), we should not ignore other meaningful aspects since video games are designed to achieve different goals and evoke different emotions. Hence, while I argue that mechanics are the most emotionally impactful aspect of the experience in the case study discussed in this chapter, it might not be the case in other games, where emotional “hooks” are designed differently.

We should consider how, on one level, game mechanics are objective (stating sets of interaction with the game). Yet, on another level, they involve a more subjective interpretation

(Barlev 2021: 8). Imre Hofmann presents an interesting discussion echoing this observation, stating that game mechanics and game experience causally correlate with each other:

I consider ‘game experience’ and ‘game mechanics’ to be the two conceptual cornerstones that define the field of game mechanics: on one side, ‘game experience’ stands for the subjective experience (“I feel excited playing this.”), whereas on the other side, ‘game mechanics’ stands for the objective mechanics of a game (“The inner, causal architecture of this game looks like that”) (Hofmann 2018: 69).

While Hofmann talks about the game experience in general, my focus here is on how mechanics evoke specific emotions and convey meanings supporting rapport building between players and companions (Barlev 2021: 8). This is not always simple (to implement or identify), since mechanics can vary significantly between games and eventually, when designed effectively, should seamlessly blend with gameplay. Another layer we must consider is how mechanics either support the narrative and are designed to complement it, or if storytelling is used to thematically frame mechanics. Dubbelman discusses what he calls “narrative game mechanics,” meant to expand the applicability of the term narrative in games beyond the expressive act of retelling events of the past, “but also to the expressive act of creating events in the present” (Dubbelman 2016: 40). According to Dubbelman, video games can create events in real-time based on players’ input, and while games featuring fictional worlds are described in terms of narrative, their storylines are not or only partly predefined (ibid.). Regarding game mechanics, Dubbelman argues they act as “procedural devices that are responsible for creating events in real-time since the player’s engagement with these devices can also trigger the construction of stories in the embodied

mind of the player,” beyond devices commonly associated with games such as cutscenes, scripts, and dialogues (ibid.: 40 – 41).

An interesting aspect in this discussion is mechanics’ affordances in virtual environment constructs, forming environmental storytelling abiding by player interaction. This, for example, was often seen in *A Plague Tale*, where the constant presence of death was communicated visually through the environment. According to Dubbelman, “when a player moves through a world, the environment can be used to inform the player about the setting, characters, and conflicts. However, game mechanics, more than any other device, determine what the player can and cannot do within the environment, and this, more than anything else, determines what kind of stories the player will experience” (ibid.: 41).

However, another perspective of this approach should underline the visceral meanings that can be attached to mechanics, also highlighting the importance of the game’s setting. For example, *Journey*’s barren, desolated game world emphasizes a sense of hope when encountering another player, accentuated via a mechanic that randomly couples players for a limited time. This can also be extended to what Miguel Sicart calls “contextual mechanics,” which are “analytical concepts that can be used to understand how players decode the information in a level - how a player perceives certain structures and how those structures are used to communicate intended uses or behaviors” (Sicart 2008). *ICO*, for example, demonstrates this by mapping mechanic (hand-holding) to a button to simulate intimacy. Sicart ultimately defines game mechanics as “methods invoked by agents for interacting with the game world” (ibid.), allowing us to analyze, among other aspects, how mechanics can be used to create specific emotional meanings in, and experiences for, the players.

While game mechanics are designed to form the gameplay, Sicart argues they can also be used for “toyplay,” allowing for an exciting variation considering the level of play abstraction: “for a player who is playing the game, a mechanic serves a specific set of purposes, while a player that is playing with or within the game, a game mechanic loses its formal game design origin and becomes an instrument for agency” (ibid.). The desirable blurring between mechanics and gameplay can be effectively achieved by “hiding” mechanics behind immersive filters such as aesthetics and narrative (discussed further in the following chapter), allowing gameplay, as the direct interface, to surface. By doing so, mechanics can convey and form meanings beyond their formal function.

We can use the classic and often cited example of *Super Mario Bros.* (Nintendo 1985) to illustrate this. Released in the mid-1980s, *Super Mario Bros.* has basic core mechanics: running and jumping are the primary tools available for the player. When decoupled from other aspects, such as correlating elements, level design, and aesthetics, pressing the jump button does not convey any meaning beyond its relative value. If we add enemies to the game, jumping suddenly becomes a survival mechanism, empowering players as they now possess a function to overcome challenges. Placing powerups behind hidden elevated blocks that can only be reached by jumping makes this mechanic a tool for exploration and evokes curiosity. Adding obstacles to the level that require players to combine running and jumping creates an exciting dynamic between movement, exploration, and survival. The meaning of the jump mechanic can be shaped further by providing players with interesting decisions for its implementation, resulting in gameplay. While mechanics can convey these specific meanings, they can be further shaped (and reshaped) by gameplay, as discussed in the following chapter.

Naturally, modern games use mechanics in more sophisticated and creative ways, while others apply their function in service of other aspects. For example, games in the *Grand Theft Auto* series implement a “wanted” level, a mechanic that thematically connects players’ “illegal acts” to their wanted level issued by the authorities, which increases gradually (resulting in additional police units pursuing players) until they are caught, die, or manage to escape. This mechanic leads to different and exciting playstyles and dynamics, used mainly as an invigorating gameplay mechanic in a sandbox environment. It does not, however, aim to provide meaningful commentary on criminal life, police brutality, or social gaps. On the other hand, while presenting a relatively similar open-world structure, a game like *Mafia 3* (Hanger 13 2016) uses criminal acts and authorities’ responses to encode ideas and reinforce its theme. The game is set in the late 1960s in a fictional version of New Orleans, comprised of different districts, and the protagonist (player-character) is a mixed raced Vietnam War veteran named Lincoln Clay. When Clay commits crimes in wealthy parts of the city, police will respond quickly and send additional units to apprehend (or kill) the “colored male” suspect. If, however, crimes are committed in lower-income, predominantly African American neighborhoods, police forces will take their time and send fewer forces.

In other words, the implementation of mechanics depends on design goals. Themes are central to the video games discussed in this study, and different games use different methods to deliver them. Some use exposition in forms more closely related to other storytelling media, while others build mechanics and rules to simulate their themes (or allow themes to be drawn from mechanics). Some games are designed based on a specific type of gameplay (adhering to a specific genre) and playstyle and choose a theme to complement it. One of this study’s goals is to demonstrate the validity of each method in designing games centered on companionship while

considering the holistic structure that forms a video game. However, while elements should (eventually) coexist, complement, and support each other, initial design rarely acknowledges all these aspects simultaneously. *The Last Guardian* (GenDESIGN 2016), the case study discussed in this chapter, is one such example, a game that began with a simple image that gave rise to its theme, realized by innovative gameplay and a unique setting to evoke a sense of isolation and scale to accent the player-character's helplessness. Within this setting, *The Last Guardian* implemented contextual mechanics to interact with a sophisticated AI companion, used as the primary tool for communicating a story of a fragile, brave friendship between a boy and a beast.

The Last Guardian: setting and structure

"Stripped of all standard gamification, you're left with only that connection" (Emasiri 2017).

Few of the many games discussed throughout this study are as influential as *ICO*, the 2001 game created by Fumito Ueda (see Chapter Three). In discussing *The Last Guardian*, Ueda's latest game, a broader examination of the creator's unique design philosophy is necessary. Ueda's creative methods¹ are shared across all his games (either thematically, aesthetically or structurally). We can learn much about the setting, interactions, and companionship in *The Last Guardian* by referring to his signature design and vision as realized in his previous works, *ICO* and *Shadow of the Colossus* (Team ICO 2005). Ueda leaned heavily into the experience working on these games when developing *The Last Guardian*, which he considers a mix of the two, a sense easily communicated during its play (Ueda in STACK 2016: 0:40 – 1:10).

In *The Last Guardian*, players control an unnamed young boy (referred hereinafter as "the boy") who wakes up in a cave next to a mythical beast he releases from its chains and names Trico. The boy can climb the beast to reach inaccessible areas, which is necessary for exploring and

solving environmental puzzles. He can also ride Trico, holding on to his feathers as the mammal-bird hybrid easily traverses the open environment, comprised of scattered pillars and ruined structures. However, Trico struggles to navigate in confined spaces, where the boy, due to his small size, can easily reach leverages to open gates, allowing Trico to advance. In time, the boy learns how to command Trico to perform a few basic actions (which the beast never simply follows). These interaction mechanics, assigned to different buttons on the controller, are developed gradually as the bond between the pair grows stronger. Trico and the boy must aid and defend each other as they navigate a ruined city's remains and escape animated armored figures and another mysterious beast.

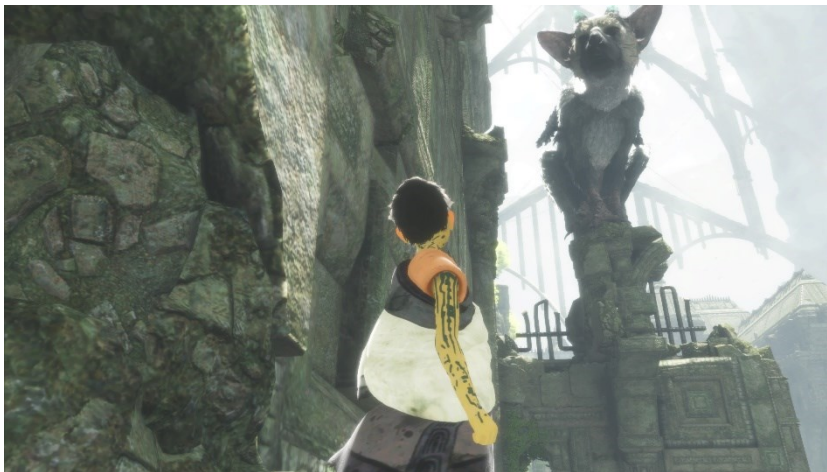


Figure 85: Trico and the boy. The environment is comprised of ancient ruins and disjointed pillars that can only be traversed when riding Trico.

In some ways, the companionship between the boy and Trico is an extension and, at times, an inversion of the relationship between ICO and Yorda since the boy is mostly dependent on Trico for protection, while the beast relies on the boy to clear obstacles, find food and tend to his wounds. Companionship is also central in *Shadow of the Colossus*. Narratively, it comes from the relationship between Wander, the player-character, and Mono, the girl he is trying to resurrect. Mechanically, however, companionship with Wander's horse, Agro, is more substantial since she

is our sole companion during gameplay. Trico can be seen as the culmination of Ueda's design of a companion character, displaying elements first implemented in the design of Yorda and Agro.

Ueda's game worlds are vast and lonely; they feel familiar but otherworldly. Their scale and architecture comprised of monolithic abandoned structures dwarf the player-characters who are young children (ICO and the boy) or young adults (Wander). The setting conjures physical and emotional isolation, assuaged only by the presence of the companion. Although the timeline is purposely vague (like many elements in his design), all of Ueda's games are set in the same world and share narrative, visual and environmental similarities, separated only by distance and time. Ueda's style, known as "design by subtraction," is based on a minimal approach to desolated game worlds where a few fundamental gameplay mechanics enable the interaction between the player-character and the companion. The mechanics are essential for every game aspect, from exploration to combat, and are embedded within the game's setting and plot. There are no lengthy cut scenes, only a few dialogues, and no NPCs besides the companion and non-human enemies.

Visually, aside from a few head-up display indications in *Shadow of the Colossus*, most elements (such as health) are communicated dietetically and are attached to the companion or player-character.² For example, if the boy falls or jumps from a high place, there is no health bar to indicate he received damage. Instead, falling from a height beyond his ability is communicated via contextual animation and movement mechanics. The boy will hold his foot in apparent pain, and his movement will be limited for a short while after the fall. Since players have no obvious way to assess precisely which falls are safe and which are not, this mechanic indicates they should be careful when performing jumps from certain heights.

Also, it is common for games to display on-screen markers or add mini-maps indicating to players where to go and how to reach an objective, leaving them simply following markers with

no consideration of the game environment. Such “game-y” features can lessen frustration but are also a constant reminder that we are simply playing a game. Ueda (for the most part) does not hesitate to challenge players and allow them to figure out how to advance or solve puzzles by closely observing the environment or, in the case of *The Last Guardian*, Trico. The beast will often explore the surroundings on its own and react when seeing something of interest that can be useful for players. By observing Trico, players can notice the direction or object he is looking at, guiding them to explore and often find the solution organically.³

While minimalist design can be found in contemporary games (especially in the indie development scene or enabled by settings that remove visual cues), it was pretty revolutionary when Ueda began working on *ICO* in the late 1990s. In the early stages of development, the game included traditional elements such as villages and settlements inhabiting NPCs players can interact with, an inventory system with different items, and various enemies. Ueda and the game’s producer, Kenji Kaido, set three core aspects for the project: “differentiation” from other games, “artistic presentation” that focuses on aesthetics that can be captured when the game is both in motion and still, and a “non-realistic reality” featuring a realistic world with dreamlike elements.

With these design principles in mind, Ueda and Kaido reviewed the game structure. They decided to implement a method they referred to as “subtracting design,” removing every element of the game “that took away from its reality” (1UP 2003). While scholars and critics (this author included) frequently try to find allegories, philosophical meanings, and artistic or cultural inspirations that shaped Ueda’s methods, the creator is much more pragmatic in his approach, admitting that his minimalist design is often the result of technical constraints as well as something that differentiate his works from those of others. For example, critics often consider his games’ ruined and desolated environments as allusions to an elaborated backstory. However, for Ueda, the

worlds he creates, while they contain some preferences of him as the creator, are generated out of the necessity for functionality reasons rather than backstory settings (Ueda in Taylor 2019). Also, following his “differentiation” design goal, Ueda mentions that one of the reasons for implementing this style is to “create a game that is unique. Therefore, if the market was full of games that had a minimalism, I would probably create games with excessive decoration and full of explanation” (Ueda in IUP 2008).

In practice, instead of having a varied cast of NPCs and enemies with unique strengths and weaknesses, he decided on one companion and different variations of a straightforward enemy type. Instead of towns and bustling settlements, he created a desolated castle ruins players must escape from with their companion (ibid.). This approach amplifies the role of mechanics, coupled with the choice to present the dialogue between ICO and Yorda in a nondescriptive language, with subtitles for Yorda only unlocked after completing the game.⁴ Ueda remarked that this was a critical design choice, highlighting the physical contact via the “holding hands” mechanic, which was their only method of communication during gameplay (ibid.). Keith Stuart discusses not only how innovative and bold this mechanic was but how for many players, the moment when ICO “takes the hand of the captive girl Yorda and leads her from her cage” was a profoundly emotional experience (Stuart 2016b). He adds that at the time of *ICO*’s release, most players “had never played anything that required one character to connect with another in such a tactile and protective way, and the idea that hand-holding could be a central mechanic was as revolutionary as it was quietly beautiful” (ibid.).

By removing elements commonly found in video games,⁵ Ueda had to reinforce the storytelling through the mechanics that became the core element of *ICO*, a methodology he kept refining in his following works, each displaying a strong relationship that defines it from narrative

and gameplay perspectives. The bonds between the characters, which lead to the player's emotional involvement, are established and realized through game mechanics and Ueda's unique visual language, which are intertwined. In addition to elements discussed in Chapter Three (such as the hand-holding mechanic and save progression functionality), we should also consider the roles of ICO and Yorda during combat and exploration since these helped shape how the relationship between the boy and Trico was designed. In *ICO*, Yorda is chased by shadow creatures, and when captured, she is dragged into a black portal. Once pulled into a portal, players "lose" and must restart from the nearest save point. It is not uncommon to attach the failure state of a game to a companion (by death or detection by enemies). However, these are secondary to the player-character, and defending NPCs is usually limited to specific segments notoriously referred to as "escort missions." In *ICO*, however, the player-character cannot get hurt by the shadow creatures who mostly ignore him. Players do not need to protect themselves in combat as in most games, so their only concern is defending Yorda, awkwardly swinging a stick (and later a sword) to fend off her attackers and grab her hand, rushing to lead her out of harm's way.

Game industry insider Dale Emasiri discusses how this design creates a bond between players and Yorda, "Stripped of all standard gamification, you're left with only that connection" (Emasiri 2017), which extends to multi-part environmental puzzles that further reinforce the bond between them. Players must first find a way for ICO to traverse the puzzle in its first part and then figure out how to assist Yorda in traversing it. As noted by Emasiri, this mechanic is a constant reminder that "this game is not about beating the levels, but caring for another character who's not as physically capable" (ibid.). The notion of "beating" a video game contradicts many design goals not only in Ueda's games, but across a medium that aims to allow players to experience meaningful stories and evoke long-lasting emotions. Wes Erdelack comments on this topic, a fascinating

observation relevant to the discussions on video games' emotional engagement, especially concerning Ueda's design philosophy. Erdelack claims that:

as soon as players understand the deeper systems behind the game we seek to master them, subject them to our intentions. And when we seek to dominate and master a thing, we destroy it. We deprive it of its beauty. This lust for mastery is one of the things that sets video games off from the other arts: we'd never say we "beat" a novel or a movie, but we feel comfortable using this kind of terminology to describe the kind of experience we have with a game. We feel that games are a contest with the designer; the systems and dynamics of the gameplay aren't there to be enjoyed or treasured but to be overcome (Erdelack 2009).

Ueda asks to subvert players' tendency to try and master the game-as-a-system by designing mechanics that are thematically attached to his games' fiction and characters, are necessary to progress the plot but also responsible for characters' believability and the emotional tone that carries the player through his worlds. In other words, if players feel empathy towards their companion and a mutual dependency is formed, the game becomes more of a cooperative effort between player and companion and less a competitive attempt to defeat the designer/system. Ueda, however, implements other techniques ensuring that mechanics are contextual within the game's setting and not simply tools for players to master, meaning mechanics follow fiction before the player.

In practice, the mechanics used for interaction with companions are not dictatorial; if they were, it would not be a companionship (at least not believable). Some games, like *A Plague Tale*, dictate when Amicia and Hugo hold hands based on the narrative structure. However, the

emotional connection is formed according to how their stories unfold. On the other hand, Ueda designs mechanics initiated by players rather than by the game. While companions are the subjects of the mechanics, they are not entirely *subjected* to them. This is more apparent with Agro and Trico but less with Yorda, whose AI was compliant and did not allow her to resist or “disobey” players. However, as a human companion, it was also thematically believable and reasonable that she would fully cooperate with ICO as the two tried to escape the castle.

Agro and Trico, as non-human animals, function according to their (fictional in the case of Trico) representation and form and within the game’s context. With Agro, players have a dedicated button for calling her and another for mounting and riding, necessary to traverse the vast open world of *Shadow of the Colossus*. This mechanic is used in countless video games, where horses act primarily as means of transportation, functional game objects with no agency that bend to players’ will and control, taking them from one objective to the next without resistance or value other than simply getting to places faster. However, the relationship with Agro is crucial within the game’s setting and owing to the mechanics of interaction and her role as a character. For example, players can stroke her and perform stunts while riding that require coordination between Wander and Agro, techniques that become necessary in later parts of the game. Agro’s role is also crucial in several combat encounters that only once overcome, players can advance the story, linking her to the narrative. Primarily, her personality, not functionality, makes Agro a memorable companion. Tom Cole presents a comprehensive discussion on how the design of *ICO* and *Shadow of the Colossus* elicit emotion, offering a detailed breakdown of Agro’s role, behavior, and animation, elements crucial in establishing and supporting her believability.

Cole argues that the power of Agro’s emotive animations is “strengthened through the nuances of her control; Agro frequently slows for no discernible reason, randomly changes

direction, throws her head back and forth and refuses to attempt difficult obstacles. She is not always an easy figure to control and the player must learn to accept these idiosyncrasies” (Cole 2015: 9). Ueda commented on the decision to make the mechanics of interaction with Agro less responsive for players, allowing the horse to act like a character in her own right rather than a gameplay tool or a vehicle. He says, “when I develop, I try to be conscious of controlling a man who’s on a horse, not the horse itself. So, I intentionally delayed the control response, knowing it could spoil operability, which was a difficult choice” (Ueda in 1UP 2007). Returning to Erdelack’s earlier observation, this design limits players from fully mastering the game’s systems and subject them to their intentions.

In *The Last Guardian*, players have more mechanics allowing them to directly interact with Trico, who, much like Agro, does not always react or behave according to the player’s commands, with the details of interaction via the player-character will be discussed later in this chapter. However, before analyzing the characters in *The Last Guardian*, it is essential to discuss Ueda’s approach to storytelling and consider the central role mechanics play in telling (and experiencing) stories (and themes) in his games. His minimalist design approach could be discussed in relation to the tension between narrative and gameplay, but Ueda does not consider his games as a storytelling space and is not concerned with players experiencing his games based on his vision. While games are often an excellent platform for “shared authorship” between the designer and player, Ueda is not interested in directing or limiting his players by any constraints that might be imposed by narrative. Instead, he wishes to move players by creating believable worlds and “let them imagine everything else. I don’t want players to try and think what my ideas for the story were. I want them to direct the story themselves” (Ueda in Miyabe 2005). That is also why Ueda’s games mostly avoid lengthy narration to describe events and guide players, and while he wants his

games to have believable stories, he argues that “narrative imposes a set plot, predetermined ideas. That would be an obstacle to interaction. I want players to approach the story however they want” (ibid.).

This approach almost trivializes the drive to exploit the game’s system. For Ueda, “the story is nothing more than the motivation to clear the game. I believe that there should be game design first and a story that suits the design, not the other way around” (Ueda in 1UP 200). If the story is created primarily in the player’s mind, there is no incentive to try and “beat” it. The experience can be centered on meaningful interactions enabled by the mechanics and the game’s setting. Ueda compares this to haiku, one of the few instances he provides an example for his inspiration. “In Japan,” he says, “there is a poet expression called a haiku [where] you don’t explain some things in detail and let the receivers understand or use their imagination with what is presented” (Ueda in Batchelor 2017). By not telling players the story’s details, Ueda lets them “make their own story from their imagination, and I think this is also a good style of expression for video games” (ibid.).

The same approach is implemented in worldbuilding design, which beyond functionality, allows the worlds Ueda creates to be expressed with what he refers to as “consistency and harmony” (Ueda in Taylor 2019). A sense of existence in such worlds is perceived not via a sumptuous design but through authenticity evoked from the harmony between the few elements that comprise these worlds. In addition, when fashioning game worlds, Ueda wishes to have the freedom to make anything he imagines without being bound by restrictions, a crucial aspect of his creative process. He states, “The second you tie it to reality too much, then there’s a bunch of rulesets you have to be wary off, and it takes away a lot of the fantasy or creativity as a game designer. So, from my

perspective, I want to have as much freedom as possible and really craft my own game worlds” (Ueda in Batchelor 2019).



Figure 86: Like every Ueda game, *The Last Guardian*’s world has a dreamlike atmosphere within realistic environments.

This sheds light on Ueda’s design process. The conceptual stage of his projects begins with a rough idea, a mental image that is then translated into mechanics in a setting that can be accomplished within the hardware limitations. With *ICO*, it was an image of a boy and a tall girl holding hands, almost like a drawing in his mind, which led to the core game mechanics. *Shadow of the Colossus* began with the idea of climbing giant creatures, and the open world concept of traversing a vast open world on horseback came later. In the case of *The Last Guardian*, Ueda imagined the creature sitting on a high, narrow ledge with a young boy hanging on to him. This image shaped the game’s visual design and the core interaction between the player and companion (Ueda in Batchelor 2017). While players and critics often ascribe elaborate and meaningful themes from Ueda’s designs, the creator does not associate his games with explicit themes or messages, as he instead values the “consistency and harmony that are inevitably generated through the game design process itself” (Ueda in Taylor 2019), expressed by his imagined worlds and the means of interaction he grants players.

In fact, Ueda purposely distances himself from binding themes to his creations, even though his design clearly evokes certain meanings, with companionship and emotional interaction being the most evident across his games. Instead of designing with these themes in mind, Ueda asks players to come to their “own conclusion about what the game is trying to tell them. I don’t like to force feed themes” (Ueda in Stuart 2016b). Hence, Ueda uses mechanics instead of relying on themes to carry his stories. Dubbelman’s observation regarding narrative game mechanics presented earlier is a useful tool to evaluate how a player’s engagement with mechanics can “trigger the construction of stories in the embodied mind of the player” (Dubbelman 2016: 41).

Other frameworks allude to the same effect. For example, Cole refers to Gordon Calleja’s concept of ‘alterbiography’ as a valuable framework for evaluating how stories in Ueda’s games are told through mechanics (Cole 2015: 7). According to Calleja, alterbiography refers to the story generated by players taking action in the game, which is different from the scripted narrative of pre-scripted story events written into the game (Calleja 2011b: 115). This dimension of engagement with a game’s narrative, as presented by Calleja, reflects Ueda’s design philosophy, as players’ “interpretation of events occurring within the game environment and interaction with the game’s rules, human and AI entities, and objects result in a performance which gives game environments their narrative affordances. Interaction generates, rather than excludes, story” (ibid.). Cole adds that this increases the player’s involvement with the narrative and leads to a unique emotional connection, where “the player experiences the story for themselves rather than be told it and their actions have a role in shaping the narrative” (Cole 2015: 7).

By assigning mechanics to companions (via the affective link), the LRI framework allows us to map emotional interactions generated through play, which are at the core of the experience in *The Last Guardian*. Interestingly, while the game’s story and setting were formed based on Ueda’s

mental image, the structure was designed to focus on the interaction between the boy and Trico. After completing work on *Shadow of the Colossus*, which was open world, Ueda returned to *ICO*'s structure design, a more closed, confined space that allows players to spend "a more intimate time with something in that space" (Ueda in Batchelor 2017). Another interesting aspect that influenced the design of *The Last Guardian* (and led to the pairing at the center of the game, the boy and Trico) was how players interpreted the relationships in his previous games, considering companionship as the central theme.

After completing *Shadow of the Colossus*, Ueda reflected on what he and the team "really wanted to communicate and portray in that game," admitting that for him, it was the relationship between Wander and Mono, the girl he is trying to save (Ueda in Stuart 2016b). Upon release, however, Ueda learned that players formed "a very deep emotional connection" with Agro, who was designed to play more of a "player support role" (Ueda in GameSlice 2016: 1:00 – 1:10). Acknowledging that what was most important and appealing for players were themes of companionship, trust, and sacrifice, as illustrated through the relationship between Wander and Agro, the team began exploring the idea of focusing on a similar type of companion character in their next game. Ueda looked at the mechanics implemented in the interaction between players and Agro to further explore these themes. He says, "if that's the case, there are a lot of mechanics from that relationship that we could heighten and expand on. That's where *The Last Guardian* came from" (ibid.).

This cooperative/creative process between the designer and players is a fascinating aspect of Ueda's design. A creator that distances himself from relying on themes so players can read them however they like embraces the interpretation through interaction mechanics. Clearly, relationships

carry and shape the experience in Ueda's games, framed within a minimalist design that amplifies the role of his unique characters.

The Last Guardian: characters and interactions

"I am not its master, and it is not my pet" (Diver 2016).

Symbiotic relationships in Ueda's games are in service of both exposition and gameplay. In the lightly plotted game worlds, interaction with the companion is often the only way players get to know their player-characters, which are never fully explored by the game's narration. In *The Last Guardian*, the boy is purposely designed not to "stand out too much" and, according to Ueda, does not have many unique characteristics. While not an avatar, the boy takes the player's place to allow interaction (Ueda in STACK 2016: 3:20 – 3:35), demanding a responsive companion as the player's counterpart. Ueda says that "because every single gamer is different, it's very hard to give the player an exact definition of the protagonist," leaving it to the players to decide how they interpret the player-character (Ueda in Stuart 2016b). Hence, to form such a character, "players need assistance from that character's surroundings – that's where the role of the NPC, or opposite character in the case of our games, comes in. The secondary character helps shape the main character. That's how we make our games" (ibid.).



Figure 87: The boy, acting as the player-character, is designed not to "stand out too much."

Although Ueda claims his player-characters lack unique characteristics, they are easily recognizable through their realistic (and often clumsy) movement and controls (especially ICO and the boy), as well as their visual design and expressive, believable animations, making both player-characters and companions play and look distinct.⁶ According to Ueda, NPCs with natural animation make it easier for players to forge a connection with them, saying, “whether it’s your horse or a young princess who needs saving,” which is one reason why “a lot of my games are able to create emotion” (Ueda in Batchelor 2019). Believable character animation is central in Ueda’s design; for him, it “has to be about life,” (ibid.) echoing the discussion on the importance of designing characters that display an illusion of life. Ueda adds, “There is a sort of naturalness or beauty to life. Whenever animating multiple frames together, I first try to create that feeling, and then in each of those animation frames painstakingly look over and over again and try to correct those things . . . It’s very much like a craftsman that’s constantly going over the same art to try and find that perfection” (ibid.). Just as important, interaction mechanics are conveyed via their realistic animations and are crucial for non-verbal rapport and help “generate what is a natural flow between the main character and the NPC” (ibid.). With mechanics being the primary means of interaction in Ueda’s games, realistic animations responding to physical contact are essential to illustrate affective rapport.

This also serves a functional purpose, especially since players must carefully observe Trico to “read” his expressions, often revealing not only his mood but also possible solutions for how to advance. Games that do not use intrusive, non-diegetic waypoints and markers employ a visual language that makes interactable objects and environments stand out from the game’s topography by contrasting or highlighting colors. However, the environments in *The Last Guardian* are often blended, making it difficult to know which way to advance. With the ability to climb Trico to

access high ledges, verticality is a significant part of exploration, meaning players must also carefully scan areas that are initially beyond their reach. While Ueda's minimalist level design often frustrates players who are accustomed to glowing markers lighting a clear path forward, it is always in service of other design goals and elements, which in the case of *The Last Guardian* is the relationship between the boy and Trico. As Ueda explains, he wants to ensure that "players didn't focus on anything other than the boy and Trico" and their shared efforts to advance (Ueda in STACK 2016: 1:40 – 1:50). Hence, observing Trico instead of searching for common environmental hints, will often lead players to the solution.⁷ In her excellent feature article on *The Last Guardian* for *Polygon*, Jess Joho addresses this "commonly cited frustration of getting stuck or being unsure how to progress to the next area," suggesting that players can "either keep scrambling around the room angrily on your own, or you can pause, turn to your companion, and learn to read the subtle cues of his body language as he too searches for (and often successfully finds) your way out" (Joho 2017).



Figure 88: Observing Trico often leads to clues on how to advance. In this image, Trico looks at the ledge players can climb and find the exit to the chamber the pair is trapped in.

Another thing that differentiates player-characters in his games is that unlike countless protagonists in video games, they are not a product of a typical power fantasy. Ueda's player-

characters are not particularly strong or capable. The boy and ICO are small and weak, clearly illustrated by their great effort to lift or push objects. Their movement is clumsy, and they will easily stumble and fall when bumping into obstacles or climbing up and down stairs. They have little to no proficiency in using any weapons effectively. Even Wander, the older, more capable warrior who battles giant beasts, has no unique powers or abilities and can barely keep his balance when climbing the colossi. These characters do not gain experience points to obtain or unlock new abilities via complex skill trees, and they never improve their “game” abilities (with Wander’s “grip” meter being the exception).



Figure 89: The boy struggles to carry a barrel up the stairs to feed Trico.

Where they do evolve, however, is within the companionship frame formed through overcoming challenges using mechanics of interaction. This is most evident in *The Last Guardian*, where mechanics evolve alongside the relationship, a thematic/functional representation of the growing bond between the boy and Trico. Early on, players are introduced to a “call button,” the only mechanic Trico will respond to. While this mechanic is sufficient to progress in the earlier sections of the game, the level design, gameplay pacing, and introduction of different elements and puzzles gradually necessitate more complex interactions.



Figure 90: Using the call mechanic to draw Trico's attention to the boy.

The game steadily builds these mechanics, allowing the boy to issue several “commands” to his companion, such as which direction to go, attack, or jump, each assigned to a different button on the controller. Mechanically, these are available from the start, but their meaning (namely, their function) only “unlocks” from a specific point in the game. Players are free to try giving Trico instructions from the beginning of the game, but he will only respond after the two learn how to cooperate, conveying that rapport is built through trust and mutual dependency.

This mutual dependency, according to Ueda, is designed so players will not think of the boy as “the main character and Trico just as a gameplay tool,” but instead encourage them to think of Trico as a character they progress with beyond just his functionality (Ueda in STACK 2016: 1:10 – 1:20). As mentioned, Ueda wants to make sure the focus is constantly on the boy and Trico, which, in addition to level design, means the game does not have incredibly powerful enemies that require advanced techniques to defeat or long stretches that center solely on the boy or Trico. It also avoids presenting increasingly difficult hurdles for players to overcome by themselves (such as difficult platforming or combat encounters for the boy when separated from Trico), as the focus is always on their shared journey. Ueda explains, “I wanted to keep the two characters and their relationship at the forefront of the player’s mind” (ibid.: 1:50 – 2:25).

The Last Guardian is a single-player game, but it rarely feels or plays as such. Progression is only possible through cooperation, demonstrating how interaction with an AI companion can deliver a meaningful social experience. Joho discussed the long-lasting impression of playing a game designed to “disempower the player as she progresses, replacing individual autonomy with the shared empowerment of successful collaboration and mutual trust” (Joho 2017). *The Last Guardian* does not confront players with “traditional” video game challenges that require dexterity or quick reflexes, nor through its theme as in *A Plague Tale*’s case. Instead, it asks players to work together with a believable AI companion, testing their patience as they control a little boy who tries (often unsuccessfully) to command a giant beast.

The boy

As the boy wakes up in a strange cave, he notices a chained, injured beast breathing heavily next to him. We hear the voice of an old man narrating a cryptic message, saying, “Be among the chosen ones... In my dream, I was flying. Flying through the darkness.” We soon discover the narrator is the boy, taking us through his memories (or imagination). There is no more exposition or explanation of how the boy ended up in the cave, with the narrator only describing what we witness in front of us. “Beside me lay a great man-eating beast – “Trico.”



Figure 91: The boy wakes up in the cave beside Trico.

Clearly, he is in pain, and this confined space allows players to get used to the controls and slowly approach the chained beast. Trico howls at the boy but is unable to stand up, and players can get near and see spears pierce its feathered body. Climbing Trico does not have a dedicated button, and there is no “grip meter” showing how long the boy can hold on to him. Once on Trico, the player can move freely without worrying they might fall, which is crucial in many game sections. Finding the spear, a button prompt teaches the player how to remove it: they need to hold a button and pull back the analog stick, as the boy mimics the action, pulling out the spear.

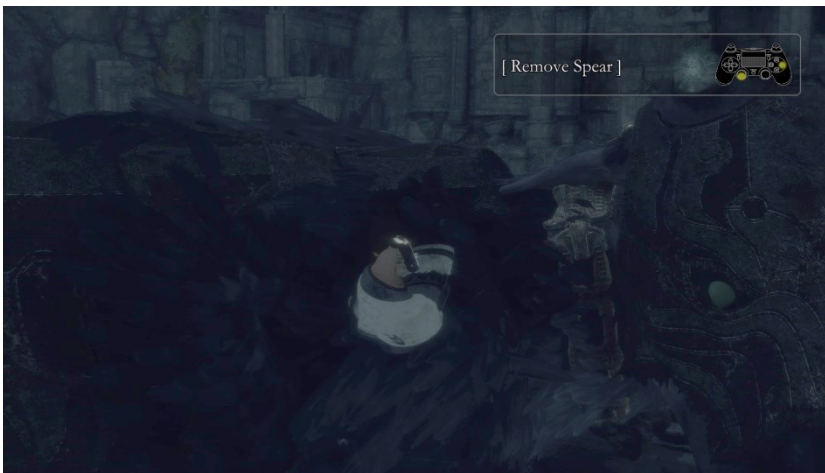


Figure 92: Players learn the mechanic of removing spears stuck in Trico’s body.

Trico shrieks in pain and knocks back the boy, but after recovering, players learn another key mechanic, how to feed the beast. Trico is drawn to glowing barrels that capture his attention. When a barrel is in sight, Trico becomes transfixed, and his eyes glow in yellow. However, due to his size, he usually cannot reach barrels tucked in narrow spaces, dependent on the boy to carry them to him. Once fed, Trico begins to trust the boy, allowing players to get close and remove his chains. Players are introduced to the call mechanic, and with the help of Trico, they can now access a new area in the cave, which finally leads the pair out into the world.

The call, feeding, and climbing mechanics are sufficient to advance in the first few sections of the game, parts that allow players to slowly learn what Trico can or cannot do and which areas he can access. More importantly, players gradually learn to interpret Trico's behavior and respond accordingly. For example, when hungry, Trico will sit still, unwilling to advance until players find barrels and feed him. When scared or anxious, his eyes will glow light red, demanding the boy to destroy eye-shaped color glass artifacts preventing him from advancing. While in most games, players are primarily concerned with controlling the player-character within the game's environment, *The Last Guardian* requires players to learn how to communicate with Trico *through* the mechanics.



Figures 93 & 94: Trico's eyes glow in different colors, reflecting his mood. On the left, His eyes glow in yellow whenever a barrel is in sight. On the right, Trico's eyes glow light red, meaning he is scared or anxious. Players must remove the colored glass to allow Trico to advance.

While the boy can, among a few other actions, crouch, jump or shove, the mechanics attached to Trico are more substantial in their function and emotional impact. One such mechanic allows the boy to caress Trico, and he will often come near the boy and demand to be petted. This action is constantly available for players; it is not scripted or communicated through a cut scene,

nor does it fill any visible “affection bars,” for example, as in *Black & White* or virtual pet games. However, the emotional affordances of this gesture are not dissimilar to the effects Andrew Stern wished to convey through his *Petz* games, saying, “The most direct way the user can show affection to the Petz is through petting. By holding down the left mouse button, users can pet, scratch, and stroke with a hand cursor; the Petz immediately react in a variety of ways . . . We found that being able to (virtually) touch and hold the characters was a very effective way of building emotional relationships and creating the illusion of life” (Stern 2002: 341).



Figure 95: Players can stroke Trico at any time by pressing and holding a button. Once satisfied, however, Trico will go elsewhere.

In addition, this mechanic impacts gameplay in various ways, some more easily distinguishable than others. For example, if Trico did something amusing, responded to players' calls, or simply felt like it, they could *choose* to pet him. When Trico is no longer interested in players' strokes,⁸ he will turn elsewhere, much like a cat would, which is one of the animals that inspired Trico's design. However, after stressful events, such as encounters with the armored figures when defending the boy, Trico will quiver relentlessly, unable to calm down. In this case, players must comfort him, getting the boy to climb on his unsettled companion and stroke him gently. Since this gesture is assigned to the same button as the one to remove spears (there is no

option to remap button configuration), players can caress his wounds after removing the spears, helping Trico to heal faster and remove blood stains from his feathers; one button press causing Trico to scream in pain, and another to treat and comfort him as he quietly purrs.



Figure 96: Stroking Trico's wound after pulling out a spear, a blood stain can be seen on his feathers.

Referring to Bernard Perron, Cole argues that contextual mechanics in Ueda's games "lends support to the theory of emotions as 'action tendencies' and a games power to change them" (Perron 2005 in Cole 2015: 8). Action tendency refers to "an urge to carry out certain expressive or instrumental behaviors that is linked to a specific emotion" (APA Dictionary of Psychology: action tendency), and Perron discusses how the concept can be applied to story-driven games which are dense information emotional world that use "multiple emotion cues to elicit the proper emotional experience" (Persson 2005: 8). While *The Last Guardian* is a linear game that follows the design's script, it is not a story-driven game, but rather a companionship-driven one. Nonetheless, Perron's observation that gameplay emotions "arise from the interactions of the gamer with the game(world)" through controls (which can lead to action) (ibid.: 7) helps consider how *The Last Guardian* uses emotional (visceral) design to evoke players' action tendencies within the game's fiction and through its mechanics.

The boy's design assists in this process. He has no fighting abilities, and since he is the target of the armored figures, he depends on Trico for protection. This creates an interesting dynamic; since players have no way of defending themselves (they can struggle to escape once captured, but enemies will relentlessly pursue the boy until they are destroyed), they must try to lead their pursuers to Trico, quickly climbing him for shelter. Once on the beast, enemies will focus their attacks on Trico, throwing spears and surrounding him. While they pose no real threat to Trico, his believability makes these encounters tense moments. He howls and jumps anxiously; stress and pain are vividly illustrated through his voice, movement, and expressions as he desperately tries to defend the boy. Surviving the attack, his body is pierced with spears, and blood stains his feathers. Players cannot but feel responsible for Trico since if it were not for their inability to defend themselves, Trico would not get hurt. The action tendency of their empathy towards their injured friend is nurture and compassion. The game affords players with means to react according to their urges and emotional state, treating Trico through mechanics that carry out expressive behaviors. In other words, the interaction mechanics are mutual and in service of both the player and companion. Each is granted autonomy, functionally adequate to advance the game, and emotionally engaging to form a believable companionship.



Figures 97 & 98: Since players cannot defend themselves, they need Trico to protect them. In this case, the boy, chased by enemies, must pull a lever (left) so Trico can enter and defend him (right).

The need to be protected by someone creates a sense of urgency uncommon in video games, a medium that often delivers its thrills through empowering mechanics; the player-character is the capable hero defending the companion, not the other way around. However, Ueda designed a character with “some kind of vulnerability that players could empathize with rather than to be immaculately perfect” (Ueda in Taylor 2019). This allows *The Last Guardian* to invert the familiar trope, introducing another form of responsibility, not one of power, but of care and compassion. These visceral emotions are inherently understood through real-life relationships and experiences, effectively portrayed in the game via its mechanics (Emasiri 2017). As Joho notes, “It’s hard to imagine a player making it through *The Last Guardian* without being affected by the bond established between the boy and Trico. But I concede that, if you are a player who only goes to games to feel empowered, or who believes experiences of frustration are never an appropriate sensorial exploration in video games, then [this game] may not be for you” (Joho 2017).

Trico

Ueda says that when he first set out to design Trico, he “wanted to create something that was not easily identifiable as cute . . . I want gamers to feel when you first encounter Trico, it’s like ‘What is this animal? It’s a bit creepy, it’s a bit strange, it’s a bit weird. But over time, you get to see the cute side of Trico” (Ueda in Williams 2016). Trico’s unique features and expressiveness contribute much to his believability as a creature that might genuinely exist in the game world’s context. His behavior and attachment to players complement it. Soon after escaping the cave, Trico begins following the boy. Passing through a narrow hatch, the boy says, “Well, this is good-bye. I must go home to my village.” Trico, peeking from inside the structure he is trapped in, wails in despair. He finds an opening through a collapsed wall, but the boy demands, “No! Stop following me!” Trico does not obey and jumps, reuniting with the boy.



Figures 99 & 100: Trico wails (left), unable to reach the boy. He soon finds an opening (right) and follows his companion.

When discussing Trico, it is useful to refer to the discussion on AI in Chapter Two. Trico is arguably the most advanced and sophisticated AI companion discussed in this study, and he shares many traits with other believable agents. However, what makes Trico a believable companion, is how Ueda and his team used the advanced AI to make Trico subvert player's expectations of what they are usually accustomed to when interacting with a non-human animal companion in video games: an obedient, useful gameplay mechanic in animal skin.

The scene described above and the stroking mechanic purposely ascribe Trico with qualities often associated with our household pets. AI expert and game designer Michael Cook, whose comments on our relationship with AI were presented in Chapter Three, discussed what he thinks will be the next stage in AI evolution in games. "Actually," he says, "animals might not be a bad place to start when exploring love and intelligent NPCs. After all, we love our pets almost as much as we love other humans, and you don't have to spend thousands of dollars working out how to get a pet to speak to the player, either" (Cook in Stuart 2014). The topic of non-verbal communication with a non-human animal presents the medium with plenty of new and exciting interaction methods. Keith Stuart, for example, discusses innovative methods for changing how stories in video games

are told. Instead of primarily relying on dialogue, he argues that with technological advancements, “subtle facial expressions and body language can come into play. In the future, players will have to read the non-verbal cues of characters” (Stuart 2018). While he refers primarily to interactions with human NPCs, this observation is especially relevant for non-human animal NPCs, whose only method of communicating with players is non-verbal.

However, most video games are rarely concerned with depicting animals in ways that necessitate interaction beyond function, as characters, not objects. Joho discusses this topic at length, saying that historical animal companions in games have primarily been treated “like objects or tools given to the player as a reward, their mindless obedience established through interactions that are functionally no different to interactions with a weapon, power up, or piece of armor” (Joho 2017). For example, horses and other mounts are usually nothing more than sprint or inventory mechanics, popping into existence next to players with a button press. Dogs often operate as ranged weapons, and attacking distant enemies is their sole purpose. While many actions mirror our cultural attitudes and treatment of animals in real life, video games have proven they can create such companions to be more than tool-oriented conventions, designing animals with both functionality and personality.⁹

Granted, technological limitations can explain why many games resolve to one-dimensional depictions/interactions with animal companions, and settle for them simply “being there” for the player. As Joho explains, these animals also provided players with much-needed companionship outside of their purely mechanical functions, adding that “the feelings of love fostered through these relationships far outlive any love players might harbor for a special ability or sprint button. But fundamentally, these approaches paint strict one-way streets when it comes to animal-human relationships” (Joho 2017). In addition, it has been demonstrated throughout this study how

impactful reciprocal relationships between players and companions are, even if just in the form of illusion or simple gestures. Joho echoes this argument, saying that although “one-way streets can still elicit powerful responses in players, the dynamic assumes autonomy from only half the relationship. So much mechanical and emotional depth is lost due to the shallowness of these unexamined conventions” (ibid.).

Indeed, hardware or other technical limitations are insufficient to explain many developers’ decision to deprive animals of their autonomy. Agro, after all, featured in a game from 2005 and was more believable and autonomous than many “game horses” succeeding her. I argue that this pairing of “believable and autonomous” provides the answer. As mentioned, a few hours into the game, Trico and the boy find themselves trapped in an area where the call mechanic is no longer sufficient for progression. The narrator informs players there is no point in looking for an exit, saying, “The beast could not find a way forward.” Commands soon become available and are introduced in this area (which has no enemies), allowing players to train commanding Trico and figure out how he reacts to each, since their functions and descriptions are not explicitly explained. Players must work together with Trico to understand their meanings and use the newly acquired mechanics to find the way out.

Thematically, we access commands as the bond between the boy and Trico grows; they have built trust and overcome dangerous challenges and encounters. The narrator continues, “we have come so far together. And in so doing, we had developed a bond. A mutual understanding that offered us a chance of escape...” An on-screen prompt instructs players how to issue commands, and the boy animates each mechanic vividly. He jumps, points, or claps. The narrator explains, “The beast had grown accustomed to my company. So accustomed, in fact, that it began

to mimic my movements. I ran, jumped, capered, and cavorted. And in so doing, I learned something of what the beast might be encouraged to do.”



Figures 101 & 102: Players learn how to issue commands (left) and are provided with a safe environment to test them and see how Trico reacts (right).

The phrase “*might* be encouraged to” is important since even after commands are introduced, Trico might ignore them completely, especially if occupied with something else that draws its attention. He will wander off, chase butterflies, or roll in water puddles. Once players can grab his attention and issue commands, Trico will often stare at the boy, unsure how to respond. He often plays with his food, leaving players with no choice but to wait for him to decide it is time to eat. Even when called, Trico will never instantaneously “teleport” next to players and will carefully navigate the environment, trying to figure out how to advance. Considering that players have been conditioned that companions, especially non-human animals, blindly obey their player-character, “regardless of whether we’ve earned their compliance or not” (ibid.), Trico’s individualism often frustrated players with its lifelike, autonomous, believable behavior.



Figure 103: Trico plays with the food barrel given to him by the boy. Even if players issue commands, Trico will not respond. Players must patiently wait until he decides to eat and move on.

Ueda discusses the design considerations for Trico, saying it would have been easier to make an AI that makes Trico “come immediately, like clockwork” (Ueda in STACK 2016: 4:20). However, the team decided to give the creature a more advanced behavioral AI, a process that was extremely difficult and painstakingly long (Ueda in Williams 2016). As Ueda explains, “to give him that kind of independent nature was very important because if Trico was just going to do everything you tell him to do, straight away, that kind of takes away the point of giving him AI” (ibid.), adding elsewhere that “It wouldn’t seem like it was alive and making its own decisions” (Ueda in STACK 2016: 4:30). At the same time, Ueda was aware this might be challenging for players who are accustomed to less independent companions, saying that “you end up giving gamers a lot of stress if he’s not listening to you all the time and doesn’t do what you want it to do, so the team attempted to strike that good balance between Trico doing his own thing and also listening to the boy” (Ueda in Williams 2016). In other words, to make Trico believable, his AI needs to be advanced enough so he will not act like an AI.

Despite this “balance,” many players found the interaction with Trico frustrating. While often considered Ueda’s “magnum opus” (the game was in development for nearly a decade), *The Last Guardian* is also his most divisive title, especially for this reason. While by no means a failure,

the game did not reach the acclaimed heights of its predecessors, with players and reviewers voicing frustration over the inexactness of commanding the creature and his autonomy (Joho 2017).

In his review, Philip Kollar from *Polygon* writes:

Trico annoys because it acts exactly as you'd expect a cat to act. . . it's casually ignoring your shouts from across the level . . . On top of that, Trico may ignore your commands if it feels like it, which turns any puzzle that depends on the creature's help into an aggravating waiting game. In numerous cases I would give up on a puzzle and set down the controller, turning away from the screen. When I turned back 10 or 15 minutes later, Trico would inexplicably, finally be in the position I had been trying to get it into when I gave up. . . It makes for a realistic depiction of my favorite house pet, but it's terrible gameplay (Kollar 2016).

Much frustration when interacting with Trico comes from how uncommon such believable animal companions are in video games. The most sophisticated animals we usually encounter in games are enemies, not companions, encounters that (with a few exceptions) rarely test our patience or ask us to observe subtle cues to the same extent as *The Last Guardian*. Despite being afforded all the necessary mechanics to interact with Trico and progress in the game *together*, players lust for subjecting the game's systems to their intention, to "dominate and master" it, as Erdelack noted earlier, cannot be fulfilled in *The Last Guardian*. Matt Peckham from *TIME* echoes Joho, saying that impatient players may balk at how Trico sometimes ignores them, or how much time can pass before he will act according to their wishes. "That would be a mistake and a misreading," he adds. "The game's contemplative sequences are as meaningful and essential as its fast and furious ones . . . What he requires most is your patience, a virtue discarded by the

handholding school of game design, an assumption provocatively challenged by Ueda throughout *The Last Guardian*” (Peckham 2016). In it, mastery over the system means mastery over Trico, since NPC companions, as previously discussed, are part of the game’s mechanics, and “are always an integral part of the system” (Hack 2018: 293). Rapport (or an image of) can be generated within and with systems. However, it is when players fortify their will to dominate Trico and accept that he has a will of his own, that companionship is formed. In his review for *Vice*, Mike Diver writes:

This creature appears to have absolute free will, sometimes responding immediately to the player’s instructions, and at other times taking time to come around to the commands. This can infuriate at first, as you curse its inability to save you from a do-or-die leap, but I soon came around to the understanding that I am not its master, and it is not my pet (Diver 2016).

The relationship between the boy and Trico, between players and Trico, is based on mutual trust, primarily communicated via the game’s mechanics. This can be seen when Trico protects players and they remove spears, but also through navigating in a game world that seems as if it was built for giants. The game uses trust and cooperation within its environment to set some of its most tense moments. The boy often needs to get rid of the eye-shaped colored glass, yet some are located in the open environment, on top of narrow platforms and columns, and he must climb alone to reach them. Separating the boy from Trico leaves players vulnerable, and these are relatively challenging platforming sections that place players in danger, which the game escalates further by collapsing the environment around the player. Players sometimes have no choice but to jump, a set-piece moment seen often in games. However, most of these intense scenes are usually executed via a quick-time event where players must respond to a button prompt or through a cut scene.



Figure 104: With the platform they are standing on about to collapse, players must decide when to jump, reading Trico's expressions to ensure he will catch the boy.

The Last Guardian asks players to trust their companion and observe his gestures and expressions. This “leap of faith” is performed by the players, not dictated by the game. They must hope Trico is aware of their presence and that their bond is strong enough for him to save them.



Figures 105 & 106: Jumping off the platform (left)), Trico carefully observes the boy, and successfully catches him (right).

Chapter Three presented a lengthy discussion on how creators give life and agency to an NPC in fixed and linear games that follow tightly constrained structures and where the outcome is always predetermined. It is particularly interesting to revisit this discussion in relation to *The Last Guardian* and Trico. Tommy Thompson mentions that game companions usually fall short for the

following reasons. First, from a design perspective, companions are typically subordinate (recalling the original meaning of agent). They either do what they are told or do the same things as players, only not as well (Thompson 2017: 3:20). Second, from a narrative perspective, companions are seldom significant. They may become a conduit for expressing emotions, but designers usually put them at risk to establish stakes or kill them to evoke emotions of grief and motivation for revenge (ibid.: 3:50). And third, from a technical perspective, believable companions are challenging to build since the quality bar for exceptional companion behavior is incredibly high; players spend many hours with these characters, meaning they need to be interesting and react to the world around them and proved valuable during gameplay (ibid.: 4:10).

This chapter demonstrated how Ueda and the team at GenDESIGN created a companion that overcame all these complex challenges, resulting in a believable, autonomous, functional, and meaningful companion within the game's context. Trico follows the necessary attributes of a believable character:

1. While we know little of his background, Trico displays a rich personality and familiarity with the world around him.
2. He reacts emotionally to events, especially ones concerning the boy's safety. He will tremble in fear when attacked or injured or whine when unable to reach the boy.
3. Trico never waits for players' commands, is self-motivated, and acts on his own by interacting with objects and the environment.
4. Trico's character gradually grows. He is hesitant and frightened when meeting the boy, yet he learns to trust him and cooperate.
5. Trico's only social relationship is with the boy (another beast appears later in the game). Trico often initiates interaction through physical contact and sounds.

6. Since non-verbal gestures and expressions are Trico's primary means of communicating with the boy, he often conveys his mood and state through expressions, eye color, and movement, resulting in a lifelike character showcasing the illusion of life implementation in video games.

Companion and mechanics-based rapport: conclusion

"I hope players feel that when they play" (Ueda in STACK 2016: 6:10 – 6:40).

The Last Guardian is a unique cooperative experience within a single-player game, enabled by a believable companion, a carefully crafted world, and interaction mechanics that help shape the relationship between the boy and Trico. In his book, Jesse Schell discusses why people play multiplayer games. One of these is the ability to "explore ourselves." Schell argues, "Alone, games let us test the limits of our abilities, finding out what we enjoy and learning what we want to improve at. But when we are with others, we get to explore how we will behave in complex social situations, under stress" (Schell 2015: 396).

The Last Guardian shows the need to revise or at least expand this statement. Players can learn much about themselves from interacting with Trico and explore how they behave in this unlikely companionship. When Trico is hurt, will they immediately rush to him and offer comfort, or will they run toward the next area? Will they caress him after removing a spear, trying to remove the blood off his feathers or not? When feeding him, will they throw the barrel near him or try to make sure he catches it mid-air, an action he learns in time? When Trico is playing in a puddle, not responding to players' calls, will they join him in the puddle or impatiently put down the controller in frustration? All these are choices players can make through the game's mechanics, a set of actions that convey meanings, telling players much about who they are in the context of the

game, but also beyond it. These mechanics are the core of the LRI model when analyzing *The Last Guardian*:

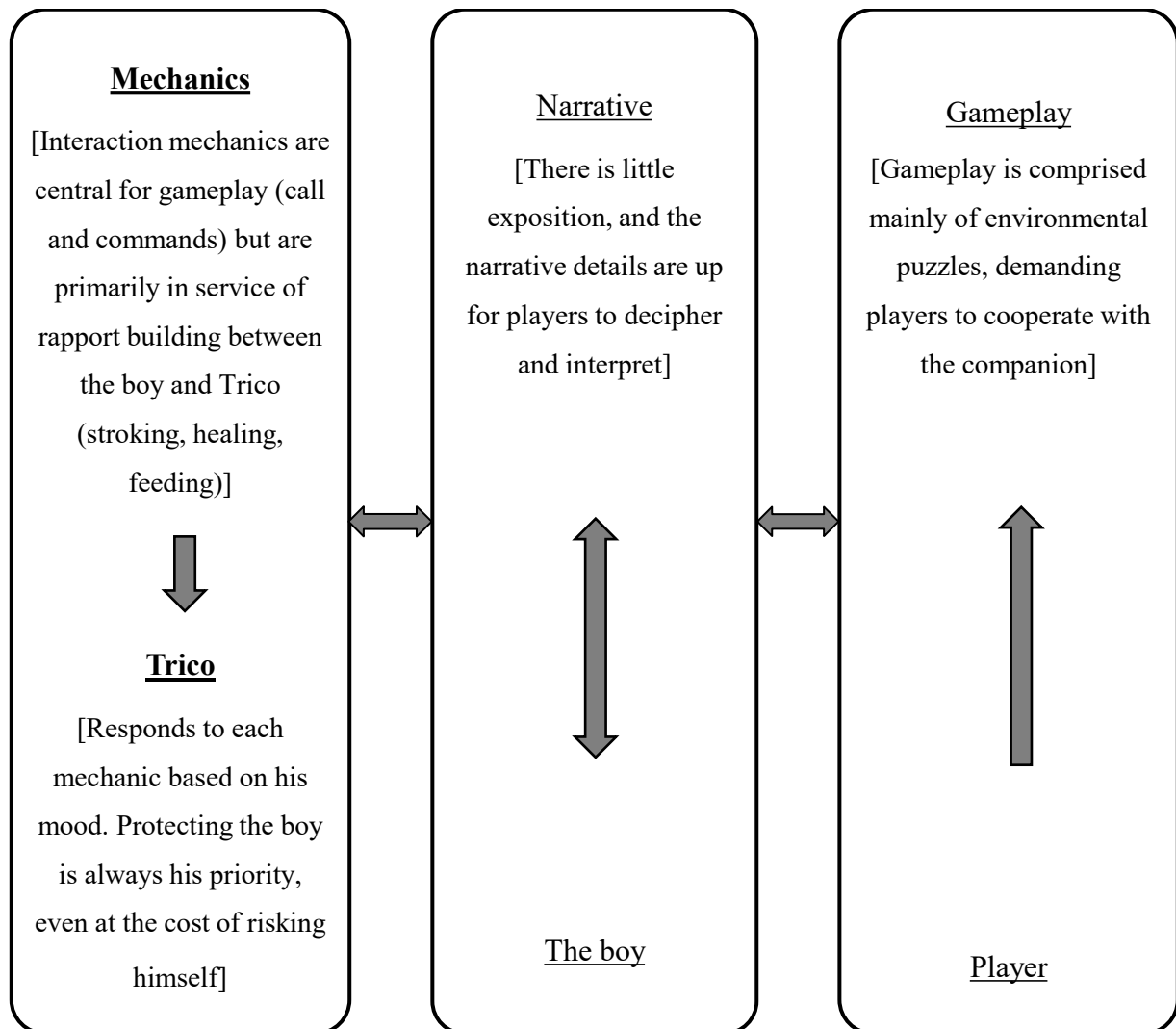


Chart 7: *The Last Guardian* focuses on interaction mechanics. The LRI model demonstrates the dominance of this component and its associated participant.

Ueda often asks, “what can only be done in a video game?” The answer he comes up with is that the games he makes create situations with two characters. “that’s my response to that question. . . When you have one character that’s created by a program, that acts on its own will,

you simply can't do that in a film, or a book. The other character is placed there to navigate this one through the game" (Ueda in Diver 2016). Elsewhere, he adds that there are many mediums to tell stories. However, Ueda believes that "when you compare games to those other media, what they do better is to build empathy. There's a more realistic feeling of presence" (Ueda in ACMI 2011: 8:10 – 8:30). There is no question that each medium forms empathy with distinctive methods, yet Ueda's ability to convey this feeling towards a virtual character is unique within the video games' landscape. Peckham frames this topic in his excellent review:

when [Trico] is hurt, woe unto whatever's causing him pain, because here is a game that can summon genuine outrage without a trace of exposition. Here is an experience that earns your emotional involvement like an accreting tidal force, frighteningly powerful and often unexpectedly so. Here, at last, is an approach to the medium that understands empathy, and perhaps even what lies beyond (Peckham 2016).

The one thing Ueda hoped players feel when playing his game is that "Trico is real, living being. We made the game so players would come out of it feeling that Trico is truly real. The stages, the characters, the motions... they all come back to that. I hope players feel that when they play" (Ueda in STACK 2016: 6:10 – 6:40). When judging *The Last Guardian* by conventional standards, the game invokes the rhetoric of frustration through interaction, which caused many players to abandon the game after only a few hours of play. If they stick with it longer, players soon learn that the challenges of communicating with Trico are recontextualized within the frame of rapport between themselves, Trico, and the boy. Joho notes:

ultimately, both the player and Trico find meaning and purpose in overcoming the barriers of language, biology, civilization and even instinct together, to become one single entity working in tandem to survive a world that does everything in its substantial power to tear them apart (Joho 2017).

Relationships in games are rarely as complex as in real life, and they often never intend to be. Communicating with most game companions never requires patience or careful observation; it is instantly executed. While offering players tools for communicating with Trico, Ueda asks them to master these tools instead of trying to master their companion. In time, Trico does listen to the boy more often, and the hurdles of communication are gradually alleviated as bonds become stronger, much like they do in real life.

Chapter Seven:

Gameplay and player in *Hades*

After discussing how game creators design emotional interaction with companions using the structure of a game's narrative, and how meanings of companionship are conveyed through innovative implementation of game mechanics, this chapter will address the final core component in rapport formation, gameplay. Game scholars present different definitions for the term gameplay, with many using it to emphasize the interactive status of video games as the essential feature differentiating video games from other media, a topic discussed in length in Chapter One. While interactivity is not exclusive to video games, Jonathan Frome clarifies that (video) gameplay requires interactivity. Frome discusses the distinction between interactivity and gameplay, arguing that "gameplay involves both interactive and noninteractive elements, and interactive works do not always involve gameplay" (Frome 2019: 256). Gameplay and interactivity, Frome argues, are often conflated when discussing video games (as is often the case in this thesis), which he claims present significant drawbacks to our understanding of "player experience, player emotion, and the ways video games differ from other entertainment media" (ibid.).

Frome's framework distinguishes these two terms and is thought-provoking beyond its semantic construct, especially considering the topic dealt with in this chapter. Most relevant to our case is the argument that emotions caused by gameplay and emotions caused by interactivity are different categories: interactivity can be thought of as a feature of a specific work, and gameplay as a mental framework or attitude of the players (ibid.: 858). This approach allows us to recognize ways in which interactivity elicits emotion outside of gameplay, which, Frome argues, is "necessary to understanding many types of player experiences, and it encourages us to discuss

“game emotions” rather than “gameplay emotions,” which helps us better understand which emotions are actually unique to gameplay” (ibid.).

The previous chapters, dealing with games’ narrative and mechanics, considered interactivity as a situational feature (game emotions) and gameplay as the interpretive framework (gameplay emotions), highlighting the significance of emotional responses to interactive situations that are not based solely on gameplay (ibid.: 866). However, since interactivity is highly context-dependent, it is impossible to detach it from the play experience in the case studies discussed in this thesis. For the purposes of analysis, the LRI model allows us to isolate video game components to evaluate rapport formation based on the game’s fiction (narrative), interaction affordances (mechanics), or execution of the mechanics within the narrative framework. However, as stressed repeatedly, none of the components operate in isolation, and emotions (an observation shared with Frome) occur in both noninteractive (for example, a cut scene in *A Plague Tale*) and interactive (petting Trico) situations.

The challenge arises when considering standard definitions of gameplay. Bjork and Holopainen, for example, refer to gameplay as “the structures of player interaction with the game system and with the other players in the game” (Bjork and Holopainen 2005 in Lankoski and Bjork 2007: 1). A similar notion is expressed by Payne and Huntemann, who refer to gameplay as a medium-specific experience, the “dynamic interactions between a person at play and a rules-based gaming platform” (Payne and Huntemann 2019: 5). “A person at play” suggests that the presence of active gameplay occurs in relation to the dynamic interaction, but if we are to apply Frome’s observation that “what makes a situation a game is not the actions players take but the mental framework used to appraise such actions” (Frome 2019: 867), then the act of gameplay becomes secondary in forming game emotions.

This can be settled, perhaps, by referring to Deen, who considers gameplay as a restructuring practice: “Gameplay is a process where players rearrange, manipulate or change an existing configuration to create something new” (Deen 2015: 48). Depending on our understanding of frameworks’ configurations in the games applicable to this study, this observation, and its application within the frame of the LRI model, allow us to consider interactivity and gameplay as components consistent with the formation of emotions, while simultaneously supporting other elements (and the emotions evoked by them) within the structure.

Ultimately, as Frome argues, “gameplay situation must allow interactivity because games necessarily let players make moves” (Frome 2019: 868). Depending on the context, interactivity can be considered a broader concept than gameplay (for example, if audiences engage with interactive works that “generate emotions using mental frames other than a gameplay frame”) (ibid.). In another context, however, “a game frame is broader than interactivity, because this frame is used in both interactive and noninteractive situations” (ibid.). Hence, despite Frome’s reservations, in this chapter (as throughout this work), I often refer to gameplay as an expression of interactivity while partially accepting his argument that (some) game-related emotions generated while playing a game are *not* always attributable to the interactive activity of gameplay (ibid.: 868).

Gameplay’s affordance value should be considered as what is enabled by the game’s rules and mechanics. While gameplay is confined to what is possible within the game’s world and to the tools available for the player to interact with and within this world, its performative function allows us to manipulate mechanics while experiencing the meanings created by other elements that constitute a video game. For example, visuals, sounds, game geography, and environment are all immersion elements, a layer that envelopes the game’s structure and invites players to perform

(play) within the narrative frame. We can consider the following image to evaluate the role and position of different elements in relation to gameplay:

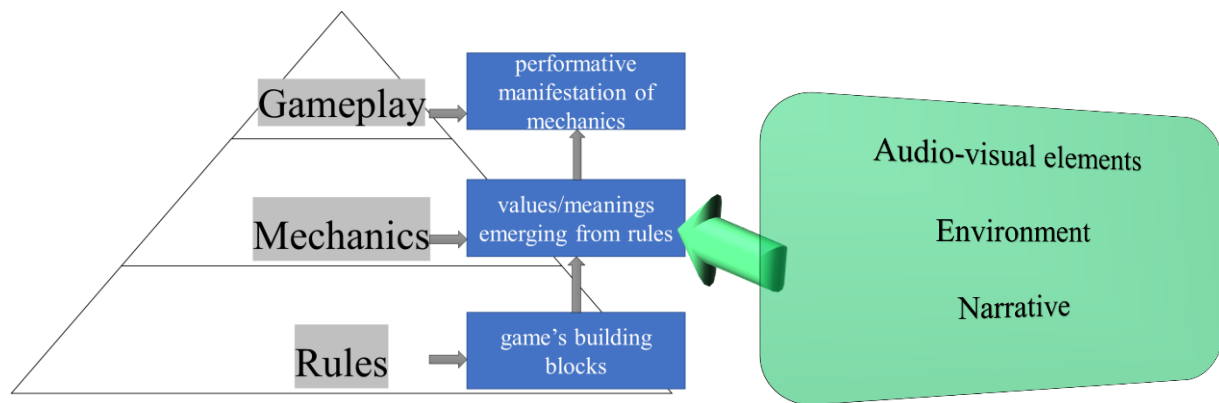


Chart 8: The pyramid displays video game components (or blocks), with the interpretation/manifestation of these blocks from the players' perspective. Players' involvement increases the closer we are to the top. On the right, presentation, aesthetics, world-building, and narrative elements envelop the structure, acting as an "immersion filter" and inviting players' interaction.

Gameplay is unique in that it is formed and operated by components "hidden" behind the "immersive filter" but breaches through it to allow players' participation. In other words, the closer we get to the structure's surface, the higher the degree of interactivity and player's autonomy.

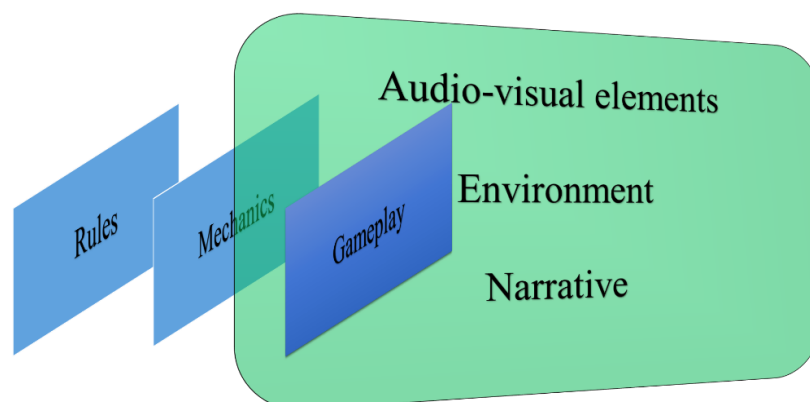


Chart 9: Gameplay is the upper layer of the game's (interactive) construct, formed beneath the "immersion filter" but operates on top of it.

This can explain why game experience, or “game feel,” often relates to the quality of gameplay, the tactile interface to participate in the game and experience its different layers, such as aesthetics and story. To analyse gameplay-based rapport in story-driven games, it is helpful to consider gameplay as the game’s dynamics, the playful behavior (reaction) that emerges from interacting with the mechanics (rules) (Hunicke et al. 2004) and narrative (goal). Mechanics (generally speaking) are the rules by which the game operates, and the narrative provides only one main goal and is limited to a linear progression (unlike branching narrative games). Hence, these elements, imposed by design, are objective in how they are implemented and interacted with (not to be confused with the experience enabled by the operation of mechanics or narrative interpretation). Gameplay, however, is subjective due to its ability to form a dialogue with the game’s rules (and within the design’s structure).

This is not exclusive to video games and can be applied to anything from chess to basketball. We can consider, for example, a game of Monopoly where the rules are objective, and there is a single goal. A few elements make the experience different each time we play. The dice and chance cards are mechanics that add a random element to the game, ensuring that no two games are similar and encouraging replayability. Another element is the players, each with different strategies to reach the game’s goal. Say we remove the random elements and establish a predefined move set each player can take in her turn. While the game will no doubt be less attractive, and replayability will be severely limited, the gameplay experience can still be different as it depends on the player’s interpretation and execution of the rules, namely purchasing and trading strategies.

When considering video games, gameplay can diversify experiences in unique and meaningful ways from a performative aspect and, as a result, can shape meanings. We can revisit the example of *Super Mario Bros.* to demonstrate gameplay’s impact on the play experience. As

discussed in the previous chapter, in *Super Mario Bros.* running and jumping are the primary tools available for the player to reach the goal of saving the princess. There were no random elements in *Super Mario Bros.*, as all powerups, coins, and enemies (who move in defined patterns) will always appear in the same place. Despite what seems like a restrictive framework for interpretation, *Super Mario Bros.* remains one of the most popular games even after nearly forty years since its release. Of course, there are many reasons for its popularity, but one could ask how a game with such basic mechanics and story can repeatedly form interesting gameplay loops. As mentioned, gameplay is not only the interface to experience stories created by the designers but also the enabler of the player's own stories.

For example, in one playthrough, a player can decide to collect all the coins and kill all enemies. This methodic gameplay style can be interpreted thematically as a revenge story against the Koopa troops and their evil king. Another player (or the same one) can choose a vastly different playstyle, using the same mechanics to speed run through the levels, ignoring enemies, coins, or powerups. Such a playthrough obeys the same rules, leading to the same ending as in the previous play. Suppose we are to consider a possible role-play according to *Super Mario Bros.* narrative. In that case, we can argue that such a player is rushing to save the princess, selflessly ignoring all treasures and boons in their heroic adventure. Truthfully, most players probably replay *Super Mario Bros.* for the challenge it presents, hoping to break a "speed run" record or uncover a hidden secret against all odds, and not because they role-play as Mario in his quest to save the princess. Nevertheless, gameplay *allows* for such meaningful interpretations within the game's structure, making it a powerful tool in rapport formation.

Lazzaro argues, "The first step to better game design is to understand how to design emotion from gameplay" (Lazzaro 2009: 4). Naturally, game designers cannot always anticipate how

players will perform in every given sequence (as seen in the Mario example). However, they can shape scenes and frame interesting choices within the narrative, coupled with meaningful mechanics and captivating presentation, all leading to an engaging (game)play that evokes powerful emotions. *Hades* (Supergiant Games 2020), analyzed in this chapter, is an example of a game that thrives on its (virtually endless) gameplay loop. Its gameplay is compelling beyond the superb “game feel” it evokes and is a catalyst for progressing the story in meaningful and innovative ways. In addition, it presents an exciting and unique formula for rapport formation, dissimilar to any other example discussed in this study. While it might seem that *Hades* breaches the framework of analysis, in this chapter, I will demonstrate how (some of) its interactions abide by the LRI model and why companionship plays a central part in the experience. After discussing *Hades*’ setting and structure — crucial for examining its unique approach to player-companion interaction — this chapter will explore the type of characters and interaction methods offered in this critically acclaimed indie title.

***Hades*: setting and structure**

“I dislike failing in games, but I dislike not failing even more” (Juul 2013: 2).

At first glance, *Hades* does not seem like a game built around companionship. Its Greek mythology-inspired theme, stylish and cartoonish hand-drawn visuals, the cast of attractive characters booming with personality, and rhythmic soundtrack, all seem to support *Hades*’ frantic gameplay loop, inviting players to experiment with different play styles, weapons, and upgrades as they assist Zagreus (player-character) in his fight to escape hell and his father, Hades. This misconception can be attributed to the genre used to describe *Hades*, known as a roguelike.¹



Figure 107: *Hades*' image captured from the game's release trailer shows Zagreus, the protagonist, and player-character, on top of (one of) Hydra's heads, one of the game's bosses. *Hades* (Supergiant Games 2020). Retrieved from Supergiant Games official YouTube channel (2020).

Roguelikes are combat-oriented games where players gradually become stronger and more knowledgeable with each “run,” relatively short gameplay sessions that usually end with the player-character death or other fail-state. Runs take place in randomized procedurally generated environments (see Chapter Two), usually tight and confined levels known as “chambers” or “dungeons,” located within “biomes,” which consist of different themes. *Hades* contains four biomes through which Zagreus must make his escape from the Underworld: Tartarus, Asphodel, Elysium, and the Temple of Styx, before reaching the surface and facing his father in battle. Players usually lose all progress between runs outside of a few “permanent” upgrades and items. However, they carry the knowledge of what lies ahead (chamber structure, enemies, and upgrades), assisting them in advancing further with each randomized run.



Figure 108: A map of Zagreus' journey through the Underworld, updates after the completion of each biome.

By nature, the roguelike genre is punishing and repetitive, built around an increased challenge and players' mastery of the mechanics and familiarity with the tools available at each run. Roguelikes rarely emphasize story, relying instead on the thrill of gameplay and randomized challenges and rewards to attract players. If such stories exist, the genre's notorious difficulty and intricate mechanics often discourage players who are interested in compelling stories, as they cannot always advance far enough in the game to experience them.

Supergiant Games, the studio behind *Hades*, took a different approach when developing their roguelike-inspired game. While the team was interested in maintaining the genre's unique structures, they alleviated many of its deterring features by relying on the studio's signature design philosophy: fast-paced gameplay that complements compelling narrative, presented in a stunning art style coupled with superb voice acting and audio design. Supergiant Games is a small independent studio (less than twenty people worked on *Hades*) located in San Francisco. Formed in 2009, the studio released three critically acclaimed games before *Hades*, all successfully marrying gameplay and storytelling with mostly linear progression, allowing the team to focus on character's growth in both power and personality.

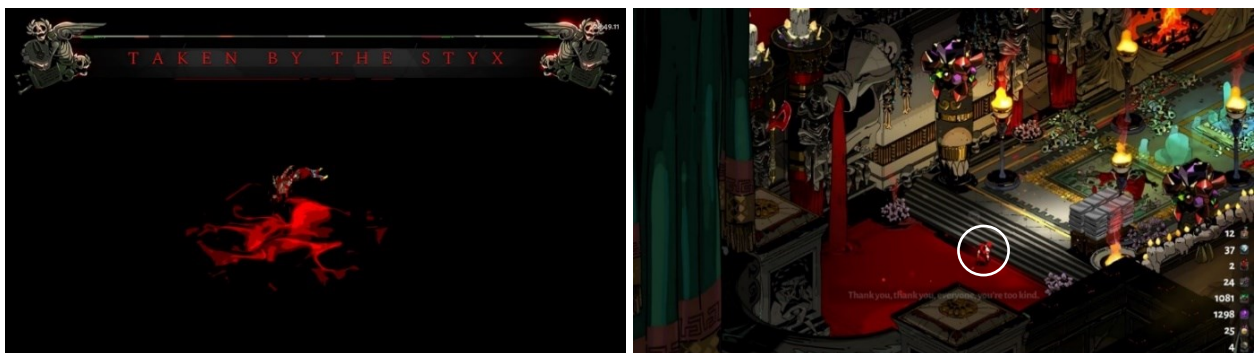
When approaching their next project, the team was intrigued by the idea of designing a game around replayability, a shift from their previous, linear campaign-focused games. Greg Kasavin, the writer and narrative director for all Supergiant's productions, mentions that the team was drawn to making a game that felt very immediate, "that you could pick up and play in short stretches or play as for long as you wanted and still have a compelling experience around that" (Kasavin in Francis 2019). Simultaneously, they did not want to compromise on the narrative design the studio is known for, deciding to adjust and refine it within a genre that could adequately accommodate it, resulting in the choice of the endlessly repeatable roguelike. As Kasavin mentions, "Whatever form the narrative would take, it was meant to make moments of story that'd intersect with the action and help contribute to memorable runs" (Kasavin in Wiltshire 2021).

Internally, *Hades* was referred to as a "narrative roguelike," implementing procedural narrative storytelling that gradually unfolds and develops with each run. This was a bold choice since, as mentioned, roguelikes are not the apparent platforms for narrative exposition in games. As game journalist Patrick Klepek points out, how to tell stories in video games "has been a challenge for the medium since day one and without a one-size-fits-all solution. A lot of games have, for better and worse, taken cues from Hollywood" (Klepek 2020). In roguelikes, he adds, the repetition and randomness "mean the story being told often has less to do with characters and plotting than the player's actions throughout a run. The decisions they make, the arc of their journey, becomes the story" (ibid.). This echoes much of the tension between games and stories discussed in this study, making *Hades* a fascinating case study for exploring gameplay's relationship to rapport formation between players and companions.

In the game, even more meaningful than the upgrades players unlock and carry between runs are the relationships they form and develop with NPCs: the gods and goddesses of Olympus

(referred to as “gods” or Olympians for clarity and analyzed as companions in this chapter) and other inhabitants of the Underworld. These characters either support or oppose Zagreus on his journey, with most encounters impact the relationships moving forward. A key aspect in *Hades*’ design is that “every run counts” (Kasavin in *ibid.*), so even unsuccessful runs (which most runs are) that do not result in reaching the surface or unlocking permanent gameplay upgrades, still feel meaningful and gratifying since players get to learn new things about NPCs, gradually building stronger rapport.

Players play as Zagreus, the rebellious-yet-kindhearted prince of the Underworld and son of Hades, the God of the Dead in Greek mythology. Due to his troubled relationship with his father and never feeling as if he belongs in the House of Hades, Zagreus repeatedly tries to escape, creating a perfect setting for the repetitive gameplay loop Supergiant was searching. After each (inevitable)² death on his way to the surface, Zagreus is sent back home, acting as the game’s “hub,” only to be mocked by his father (in the hub, players can select weapons and upgrades between runs).



Figures 109 & 110: *Hades*’ death screen (left) brings Zagreus (in circle) back to the House of Hades (right), where players can interact with NPCs and prepare for the next run.

He does, however, get an opportunity to talk to the other inhabitants of his father's realm: chthonic gods, mythological creatures, or legendary shades like Achilles or Orpheus. Conversations with these characters mirror players' curiosity, who wish to learn more about them and how they ended up serving the lord of the dead. At the same time, players learn about Zagreus, his personality and relationships, as well as his motivation to escape the depths of the Underworld. *Hades* is unique in that its exposition moments come during and between runs (namely in chambers and the House of Hades), and the carefully crafted narrative is masterfully incorporated into gameplay while simultaneously shaping it.

Storytelling's pacing was discussed in Chapter Five, and it is interesting to revisit this topic in relation to a game whose pacing relies on players' performance (gameplay) just as much as on the designers of the experience. Zagal et al. discuss the evolution of gameplay segmentation, describing the way games are broken down into smaller or shorter units while introducing new vocabulary such as "levels," "bosses" (or boss fights), or "waves" (of enemies) (Zagal et al. 2008). In discussing early arcade games, Zagal et al. identified three general modes in which gameplay was usually segmented, relating to time, space, and challenge. Temporal segmentation means "limiting, synchronizing, and/or coordinating player activity over time" (ibid.: 178). This can be implemented by setting a timer for levels or abiding by real-world rules such as fixed periods in sports games. Spatial segmentation refers to the game's virtual space and how it is broken down into sublocations using vocabulary such as "maps," "worlds," and "levels" (ibid.). Lastly, the challenge occurs when "subunits are presented as self-contained challenges to be negotiated by the player, with successive challenges implying greater difficulty" (ibid.).

Zagal et al. 2008 article does not refer to roguelikes, as the genre was not as popular then as it is today. They do acknowledge, however, that most contemporary games (at the time of

writing) include “multiple forms of segmentation that are interrelated or even co-occur. Although it is rare for a game to exhibit a single form of segmentation, one form is often more salient because of its greater impact on gameplay” (ibid.). This observation is very much relevant today and can be further developed, especially when considering how segmentation of gameplay becomes more prosperous and complex with time (ibid.: 194). *Hades* is a prime example of the evolution of structure and pacing of storytelling not only in roguelikes but across video games.

As mentioned, *Hades*’ pacing depends on players’ performance (overcoming challenge), but the game cleverly incorporates spatial and temporal modes to host or amplify challenge. For example, while runs have no timers, a late-game system allows players to add challenge “modifiers,” one of which limits the time available to clear each biome. In turn, NPCs will commend (or mock) Zagreus for taking this additional challenge. The variety of enemies, chambers’ rotations, and biomes are all linked to the resurgence of challenge (both thematically and performatively). However, each biome also hosts unique characters that players can hope to find and interact with (Sisyphus in Tartarus, Eurydice in Asphodel, and Patroclus in Elysium), forming a gameplay-based storytelling incentive to uncover additional plot lines besides gameplay upgrades. In order to increase play time and replayability, many modern games implement systems designed to drive repeated engagement, such as daily login bonuses or limited-time rewards, “encouraging” players to often check in with the game. Supergiant Games were not interested in this approach and instead, as Kasavin notes, wanted players to “keep coming back to this game only for intrinsic reasons such as wanting to see more of the story pan out or trying new ability combinations” (Kasavin in Klepek 2020).

The studio also addressed the challenge roguelikes are known for. Difficulty setting can be used as a tool for designers to control pacing, a “valve” regulating players’ progress for storytelling

purposes. *Hades* is, objectively, a challenging game, but one of the team's foremost design goals on the project was to open the thrills of roguelike games to more players:

To that end, and knowing that challenge is relative from player to player, the game offers a wide range of difficulty modifiers as well as permanent progression systems . . . alongside plenty of characters to interact with when you're not trying to battle out of hell. A feature called God Mode is always available to make you more resilient to damage (and a little tougher still each time you die) (Supergiant Games official website 2021).

In other words, *Hades* allows players to personalize the gameplay experience according to their skills, playstyles, and goals. This means Supergiant abdicates most control over the game's gameplay pacing, which extends (although somewhat) to interactions with NPCs and storytelling pacing, demonstrating players' high level of autonomy. Despite granting players gameplay autonomy, however, some design elements in *Hades* must be kept intact to ensure narrative cohesiveness and progression within the roguelike structure. In the case of *Hades*, this means that players (or, more precisely, Zagreus) must die repeatedly. In some ways, even God Mode (which makes the game easier, not easy) encourages players to fail since each death makes Zagreus slightly more resistant to damage.

Death is consequential to the structure, gameplay, and narrative and is thematically linked to every aspect of the game. Failure in most roguelikes (and, in fact, games) usually does not have any storytelling implications, meaning that while death can be extremely frustrating for players (for losing progression or items), it is not even acknowledged by their player-character or NPCs. However, Kasavin notes that one of roguelikes' key features is that players progress by taking

advantage of the knowledge from past failed attempts. Hence, he adds, “this needed to be core to the narrative. If the player doesn’t forget their deaths and learns from them, so should the protagonist” (Kasavin in Klepek 2020). To realize this design philosophy, *Hades* inverts one of the core tenets of the medium, namely, the rewards associated with the failure state.

In his book *The Art of Failure*, Jesper Juul says, “I dislike failing in games, but I dislike *not* failing even more” (Juul 2013: 2). Failure is essential to video games; it is a fundamental aspect of a medium that invites people to learn and improve through failure. Not only do players expect to fail when playing games, Juul argues that players prefer games in which they fail, resulting in what he calls the *paradox of failure* (ibid.). Juul argues that the paradox of failure is unique in that when players fail, it evokes the unpleasant feeling of inadequacy, making our choice to subject ourselves to it odd (ibid.: 7). However, he continues, “while games uniquely induce such feelings of being inadequate, they also motivate us to play more in order to escape the same inadequacy, and the feeling of escaping failure (often by improving our skills) is central to the enjoyment of games” (ibid.).

Despite how conspicuous failure is in games, mostly illustrated by the death of our player-character, these frequent deaths are often trivialized and have no impact on the game’s fiction.³ Despite its many merits, the nature of the medium can sometimes create an opposition between a robust and emotional narrative and interactivity. This is perhaps most visible with player-characters death, who can reincarnate inside the magic circle with a button press. Dramatic events must be irreversible to have an emotional resonance, but games are almost always reversible. Despite how emotionally impactful *A Plague Tale* is, a black screen with the words “AMICIA DIED” after a player’s failure gradually loses its meaning, especially since the “Restart from checkpoint” prompt is glowing right beneath it. The question of what constitutes a failure echoes multiple themes

discussed throughout this dissertation, from interactivity to players' freedom and choices. Schell articulates it best:

Freedom and control are one of the most exciting parts of any interactive story, but they come at a terrible price: the storyteller must give up inevitability. In a powerful tragic story, there is a moment where you can see the horrible thing that is going to happen, and you feel yourself wishing, begging, and hoping that it won't — but you are powerless to stop this path toward inevitable destiny. This rush of being carried along toward certain doom is something that video game stories simply cannot support, for it is as if every protagonist has a time machine, and anything seriously bad that happens can always be undone (Schell 2015: 304).

Our relationships with companions are so impactful because their fate is out of our control. We cannot undo a scripted event revolving around NPCs (recalling the discussion on *Final Fantasy VII* in Chapter Three). During gameplay, however, when tasked with protecting companions, their unscripted deaths feel more consequential than our player-character (that is, if companions die because of our inadequacy and not because of “dumb” AI). In other words, while Amicia's death can cause frustration, Hugo's death makes us feel guilty.

How does *Hades*, then, a game where death is a mechanic, and no companion can ever get hurt, a game with no “game over” or “restart”⁴ options fit into this discussion? The answer lies in how *Hades* incorporates death into its fiction, reframing failure not only to support its ongoing gameplay loop, but to make a thematic statement where each death is a new storytelling path. Kasavin discusses the team's approach to the death mechanic, saying that from the start of the development, they focused on the moment of death, “knowing it would be something players

would see frequently” (kasavin in Klepek 2020). Supergiant wanted to ensure that the player-character death was not “unduly frustrating and demoralizing . . . since the goal of a roguelike game is to be interesting enough to be worth playing repeatedly. We wondered, could we make the moment of death something players almost look forward to, rather than dread?” (ibid.).



Figures 111 & 112: An interaction at the House of Hades between Zagreus and Dusa, the legendary gorgon who serves as the house’s custodian. The two develop an affectionate relationship through repeated interactions, enabled by the death mechanic.

The game’s random structure contributes to achieving this goal. Biomes’ placement is (thematically) permanent, meaning that players will always begin runs in Tartarus and climb up through Asphodel and Elysium before reaching the Temple of Styx, serving as the gateway of the Underworld. However, chambers, enemies (exclusive to each biome), powerups, items, and even NPCs’ locations are shuffled in each run. For example, the Muse Eurydice can only be found in Asphodel, but meeting her there is not guaranteed since players cannot tell which route will lead to her chamber, or if she is even present in the current run.



Figure 113: Meeting Eurydice in Asphodel. Encountering the Muse in the depth of hell offers players much solace and valuable gameplay upgrades. However, players' motivation to meet Eurydice evolves beyond

gameplay. Each encounter gradually unfolds her story, leading players to try (if they wish) to help her reunite with Orpheus, her husband.

Players must clear a set number of chambers (there is a total of seventy chambers) to progress between biomes before facing a final boss (or bosses): The Furies in Tartarus, Hydra in Asphodel, Theseus and the Minotaur at Elysium, and finally Hades, waiting to face his son at the surface of ancient Greece, after players clear the Temple of Styx to reach him. In time, Zagreus develops intricate relationships with some of these characters (even intimate in the case of the Fury Megara). Each interaction is not only permanent but also acknowledged by other NPCs and further developed in the House of Hades. In other words, if players wish to learn how Theseus and the Minotaur turned from sworn enemies to comrades in the afterlife, they must fight their way to and through Elysium and reach the boss fight chamber. They can only uncover a few more storytelling morsels before facing the duo in battle. If players lose this battle, upon their return home, they will meet Hypnos, who comments on all the creative ways Zagreus can die. Being a fan of the Minotaur, Hypnos will repeatedly ask Zagreus to get his autograph, which, in turn, will trigger an additional dialogue between Zagreus and the Minotaur in their subsequent encounter.



Figure 114: Theseus and the Minotaur boss fight. The arrogant Hero of Athens tries to convince Zagreus to also ask for his autograph upon learning that Zagreus is only interested in Asterius’.

Since it is impossible to anticipate how much progress players will make in each run and whom they will meet (only boss encounters are guaranteed), traditional linear storytelling is not applicable in a narrative roguelike structure.⁵ Supergiant implemented a system that acknowledges Zagreus’ interactions and chooses relevant correspondences accordingly. Hence, while the narrative does not linearly unfold and players’ performance dictates storytelling progression, the pacing is carefully calibrated, meaning that players only receive bits of storytelling each time they meet characters during both runs and when they return home, limited to one interaction with each (available) character per visit. Conversing with characters is only possible if they are present (in their chamber or at the house) and if there is an icon above them, signaling they have something to say. For example, Zagreus’ adopting mother, Nyx, the “Night Incarnate,” is usually found outside Zagreus’ room at the house. Players learn much about his past through conversations with Nyx, who supports his decision to escape the Underworld, and reveals information about where he can find his birth mother, Persephone.



Figure 115: An optional dialogue with Nyx, an essential NPC through whom players learn much about Zagreus' past and the hidden secrets of the house.

Interaction is only possible if Nyx displays an icon signaling

she wishes to converse and is limited to a few dialogue lines or paragraphs.

These are compelling plotlines players are eager to explore. However, suppose they return home, and Nyx is either absent or has no interaction icon. In that case, players cannot engage in conversation (or must settle for a quick greeting or a generic dialogue), meaning they must go out on another run, hoping Nyx will have an available conversation option the next time they die.

While it might frustrate players who wish to unfold stories and develop relationships at their own pace based on their gameplay skills, this design choice is necessary to prevent players from exhausting NPCs dialogue (which updates based on progression and other interactions), as well as to encourage progression via the “game” part (in oppose to the “hub” part). Admittedly, players can repeatedly die on purpose to frequently return home and interact with NPCs, but the main storyline conclusion can only be reached if players complete ten runs. After completing the main story, an additional act begins (serving as an optional epilogue). However, ongoing sub-quests, relationships, and even romancing options are still available at the hub area, and biomes can all be explored.

In addition, interactions with the Olympian gods are only available during runs. While these relationships are not integral to the main storyline, which can be (theoretically) completed without the aid of the gods, their looming presence shapes much of the game's narrative, and their impact on gameplay progression is substantial (as will be further discussed). Hence, since players must "beat" the game to progress the story but must also fail and return to the hub to interact with NPCs (as well as to prepare for the next run), *Hades* provides an intricate balance between success and failure states in both gameplay and exposition forms.

A vital aspect of this endless cycle of death (and life) is linked to the game's setting of Greek mythology. Since *Hades*' entire design was built around its core gameplay loop, Supergiant needed a setting that could thematically accommodate it. Greek mythology gave the team countless opportunities to graft their design onto it. Much like most storytelling media, Greek mythology is often (if not over) used as a setting for video games. Although Kasavin wished to tell an original story, he thought that the Minos' labyrinth would be a fitting theme for the game's structure. Theseus was initially designed as the player-character (and later became an enemy character), wielding powers given to him by the gods who would also be characters, acting as potential companions (Wiltshire 2021). According to Kasavin, "The labyrinth was going to be a shifting environment, a maze, different every time, and at the center of it was a minotaur you have to hunt down" (Kasavin in *ibid.*). The team, however, struggled to fit the narrative design and develop Theseus as an interesting protagonist (*ibid.*). During his research on Greek myths, Kasavin came across the little-known character of Zagreus, allowing the team to shape an original story around a relatively uncharted protagonist.

The role of the Olympian gods and other prominent characters as potential NPCs and companions, however, carried on to the new design and further developed, resulting in *Hades*

becoming an emotional (and often amusing) family drama despite its grim Underworld setting. Kasavin was drawn to a particular angle on Greek mythology, one he felt was often lost in the shuffle: “the gods are a big dysfunctional family that we can see ourselves in. I think part of the reason these characters have survived for thousands of years is because they relate so strongly to so many people and they relate not because they are gods but because they are human” (Kasavin in Francis 2019). This prominent aspect of *Hades* is discussed in the following section, as this original take on familiar characters shapes the gameplay-based interactions between Zagreus and his divine relatives.

***Hades*: characters and interactions**

“it made the gods companionable” (Hamilton 1942: 9).

In her timeless classic, *Mythology*, Edith Hamilton discusses the place of the Olympic gods in ancient Greek society. Unlike other mythological deities, the gods of ancient Greece “made heaven a pleasantly familiar place. The Greeks felt at home in it. They knew just what the divine inhabitants did there, what they ate and drank and where they banqueted and how they amused themselves” (Hamilton 1942: 9). While the gods were to be feared due to their immense power and short temper, Hamilton explains that with proper care, people of ancient times could “quite fairly be at ease with them,” even laugh at them (ibid.). Many tales about Greek gods dealt with familiar themes humans could easily relate to. Love affairs, jealousy, greed, or pride, such ordinary events and characteristics, were all part of the mighty Olympians and what made them relatable. As a result, stories about the gods, Hamilton tells us, “made for a friendly feeling. Laughter in the presence of an Egyptian sphinx or an Assyrian bird-beast was inconceivable; but it was perfectly natural in Olympus, and it made the gods companionable” (ibid.).

Hades embraces these motifs. Gods of the Greek pantheon act in *Hades* as concerned uncles, aunts, and cousins, companions who (mostly) aid Zagreus to defy his father and escape hell by gifting him their blessings: gameplay boons assigned to the player's attack, special attack, dash, etc., providing "stat buffs" and abilities based on each god's character. Olympians are often fickle, becoming upset at Zagreus if he rejects their generous offers and prefers that of another god. They are jealous of one another and do not hesitate to mock or share sensational gossip with their kin. Their motivation to assist Zagreus is never fully clear, and it always seems as if each has a hidden agenda. For some, however, Zagreus' Sisyphean efforts to escape are simply amusing, as Demeter, the Goddess of Seasons, tells him, "It's quite the entertaining pastime, honestly!"

As mentioned, while players can only interact with the gods of Olympus during runs, each death brings them back home, where they meet other familiar characters who inhabit the realm of the dead. Legendary warrior Achilles serves as Zagreus' mentor; the poet Orpheus whose songs play diegetically in the halls; house custodian Medusa the gorgon; or Zagreus' father, Hades, constantly occupied at his desk with paperwork and other bureaucratic obligations. These are only part of a diverse (and fully voiced)⁶ cast that brings the Underworld to life. In his review of the game, Nick Limon of *IGN* notes that the ongoing relationships between Zagreus and the cast of characters allow Supergiant Games to marry story to gameplay successfully. This elevates the simple loop of Zagreus' escape, transforming something as "fundamental as death from a video game-y failure state into in-game world building. Characters remember your triumphs and failures with a staggering amount of incidental dialogue" (Limon 2020).

This is also reflected in the visual design. While some characters are fully animated and present in the game's world, this is not the case for the Olympians. They are represented by an icon symbolizing their godly role and power (a lightning bolt for Zeus, an arrow for Artemis, etc.). Once

players interact with an icon, the corresponding Olympian will appear as a portrait, a similar aesthetic to that found in visual novels. Each portrait has a distinct look that captures the characters' themes and personalities. As Kasavin notes, *Hades* is a story “about Greek gods and legendary heroes — we wanted them to live up to their storied reputations” (Kasavin in Klepek 2020). This also means that according to the classical tradition, the characters in *Hades* are all attractive. Hamilton discusses how “On earth, too, the deities were exceedingly and humanly attractive. In the form of lovely youths and maidens they peopled the woodland, the forest, the rivers, the sea, in harmony with the fair earth and the bright waters. That is the miracle of Greek mythology — a humanized world, men freed from the paralyzing fear of an omnipotent Unknown.” (Hamilton 1942: 9).

To capture that “miracle,” Kasavin explains that Supergiant Games explored the idea of heroic nudity dating back to ancient Greek arts “as part of our commitment to honoring the source material” (Kasavin in Parrish 2020). He adds that for some of the characters, “their attractiveness in fact is part of who they are. Aphrodite and Dionysus spring to mind. For chthonic gods such as Nyx or Thanatos, I think their beauty is more effortlessly incidental. They are the personifications of these profound concepts such as Night and Death — we felt, how could they *not* be beautiful?” (ibid.). Since the Olympians are not present in person (players never get to meet the gods), their visual design, despite being static, adds these companions a layer of believability, allowing players to relate to and consider them as characters beyond their utility.



Figures 116 & 117: Dionysus (left) and Aphrodite (right) are examples of the Olympians' attractive visual design. The icons representing them, seen in the background, trigger the interaction and match their theme.

During interactions, characters' portraits will appear, and a dialogue (direct or indirect) between Zagreus and NPCs is displayed without players' ability to impact it. There are no dialogue trees in *Hades* (except for three limited interactions), and exposition is experienced mainly through slides with characters' portraits and text that players read and listen to. However, the player's autonomy in *Hades* is supported by countless options of different playstyles, weapons and boon combinations, difficulty modifiers, and gameplay pacing. These are all manifested in gameplay and via Zagreus, a player-character with an established backstory and personality but also a highly malleable character in the context of gameplay, allowing for and encouraging experimental, expressive gameplay.

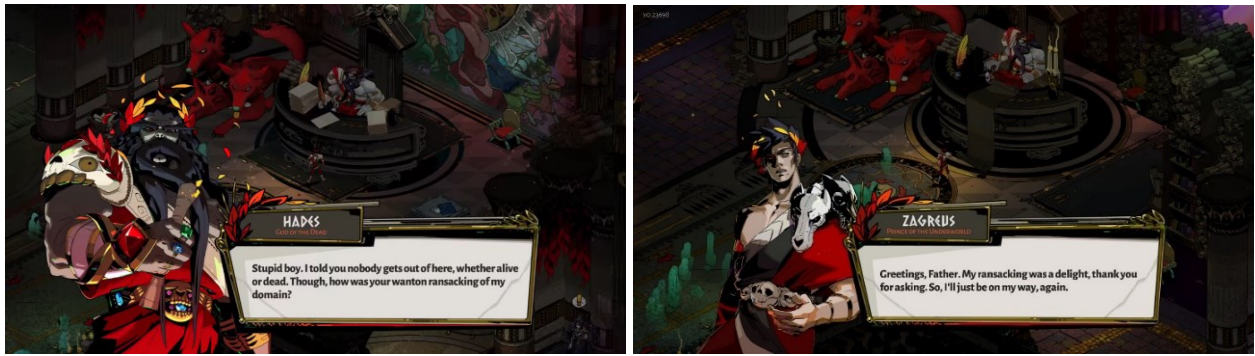
Zagreus

Hades begins with the words of an omnipresent narrator: "Few tales are told of Hades, whose very name inspires fear and penitence, reminding us of the inevitable fate we all share. I, however, mean to tell you such a tale. Listen carefully..." Following this cryptic opening, we see Zagreus jumping from his room's window, landing at the gates of the House of Hades in Tartarus. "Good-bye, Father," he says, and our journey to the surface from the depths of hell begins.



Figure 118: Hades’ opening sequence begins with a little exposition, as players are “thrown” into the game’s world to embark on their first escape attempt (which often ends in a painful, quick death).

The decision to have a relatively unknown protagonist within the rich lore and setting of Greek mythology, came after the team struggled to develop a compelling narrative around Theseus and felt that the labyrinth story was “too grim.” In his extensive research, Kasavin discovered myths about Hades’ son, Zagreus. “It turns out that there are not a lot of myths about Hades” He says, “apparently, because the Greeks were just afraid of him. So they didn’t talk about him ... It’s like, wait a minute. Hades is one of these super iconic household name level, Greek gods. And yet there’s so few stories about him and he has a son?” (Kasavin in Farokhmanesh 2021). As discussed by game journalist Alex Wiltshire, the lack of stories about Zagreus and his father gave the team space to imagine new ones, “and the repeating roguelike structure slotted neatly into the idea of him running away after a blow-out fight with his dad, then failing and finding himself home again” (Wiltshire 2021).



Figures 119 & 120: Zagreus and Hades will often have sarcastic exchanges upon Zagreus' return home from a failed escape attempt.

Zagreus' troubled relationship with his father motivates players early on to persist in his escape attempts and to establish his snarky character. After many failed attempts, Hades will mock his son, challenge him, and us, to go out and try again. "Stupid boy," he tells Zagreus after his first death. "I told you nobody gets out of here, whether alive or dead. Though, how was your wanton ransacking of my domain?" "Greetings, Father," Zagreus answers, my ransacking was a delight, thank you for asking. So, I'll just be on my way, again." To which Hades replies, "Be on your way, indeed. What do I care? You shall never reach the surface. Go, see for yourself." These uncharted relationships between Zagreus and the God of the Dead frame the family drama, which is at *Hades*' core, but also matched the setting with the game's structure of repeated failure, helping to set the narrative tone Kasavin hoped to deliver: "These slapstick failed attempts to get away, and your dad just makes fun of you and says I told you so. We were interested in that lighthearted tone because I think that the roguelike experience has a slapstick quality. One moment in [roguelikes] you feel on top of the world, and then you make some bone-headed mistake and throw it all away. You feel clumsy and stupid and you hopefully laugh at yourself" (Kasavin in Wiltshire 2021).

This lighthearted tone helped balance the game’s difficulty not mechanically but narratively, especially since *Hades*, like most roguelikes, can become increasingly frustrating. Character design, clever writing, exceptional voice acting, and, above all, relationships all alleviated frustration, making dying at the hands of a final biome’s boss (slightly) less painful. Ultimately, as Farokhmanesh notes, Zagreus role as the game’s protagonist “lightened the tone of the game, taking a grim retelling of myths, and recasting it as a lighter tale about a very powerful, very dysfunctional family — one where everyone is a little petty, no one ever really dies, and Cerberus, the fearful hound of hell, is just the family dog” (Farokhmanesh 2021).



Figure 121: Zagreus often looks for comfort by petting the family dog, Cerberus, who also acts as hell’s gamekeeper.

From a gameplay perspective, Zagreus is a capable warrior, and the world of *Hades*’ is a perfect playground for players to test his/their abilities and experience gameplay in whichever style they like. Mechanics assigned to Zagreus are all combat focused: attack, special attack, cast (a rechargeable powerful ranged attack), and dash are all tools available for players to survive the challenges of the Underworld. This is also reflected in the number of weapons players can choose from. There are six different weapons (known as “Infernal Arms”) in *Hades*, complimenting various gameplay styles. For example, the aggressive and fast-paced Stygian Blade or the defensive,

methodical Aegis Shield. The Coronacht Bow allows players to keep their distance, or the close-range Twin Fists of Malphon, with which players can quickly close distance. Each weapon has four different “aspects” (or modes), thematically assigned to different myths, drastically changing its function and allowing it to unlock other playstyles. In addition, weapons can be upgraded using the “Daedalus Hammer” artifact, offering thirteen different upgrades for each weapon, further diversifying gameplay.

In a roguelike structure, solidifying the sense that players can discover different successful playstyles is a crucial part of the design, contributing significantly to players’ gameplay autonomy. Kasavin discusses how Supergiant Games favored a design that “let you experiment, that give you the latitude to experiment and encourage you try different things and experiment with different tools within the context of the gameplay” (Kasavin in Francis 2019). A primary aspect of playstyle diversity in *Hades* is the Olympians’ blessings, boons that upgrade combat and add potent effects to Zagreus’ attacks. Kasavin mentions that even if players feel they found the most effective combination of weapons and abilities, they might be attracted to experiment with a new set of tools and abilities “that is even better or maybe just different in an intriguing way” (ibid.).

Weapons that differ in abilities and playstyles are not unique in action games and roguelikes, but they are usually not “different in an intriguing way” beyond stats and mechanics. Boons not only diversify the gameplay but are thematically linked to the gods of Olympus, with their blessings acting as players’ arsenal embedded in Zagreus’ abilities. The Olympians, however, do not become Zagreus’ weapons once we assign their boons; they are companions with unique personalities, attributes, and ambitions who act accordingly, and their iconic abilities extend their presence into the game’s world *through* gameplay. This multilayered companionship, formed via gameplay and supported by the narrative, is one of *Hades*’ most unique (and celebrated) aspects.

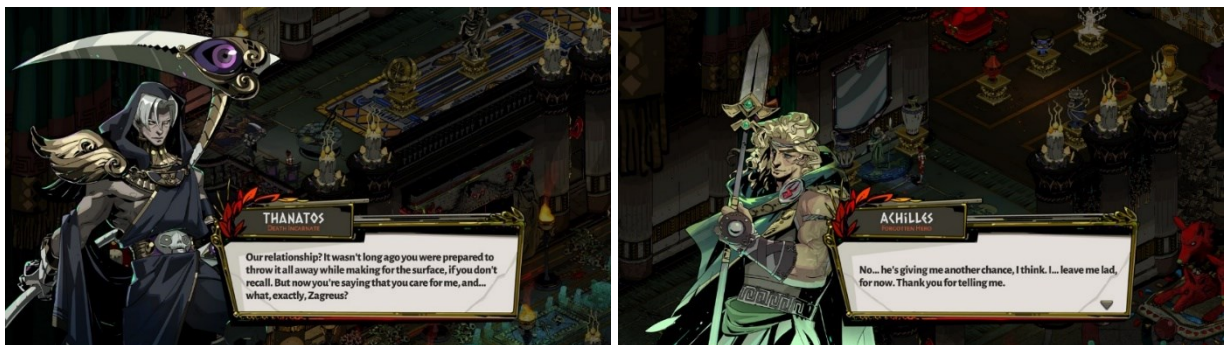
In other words, players do not only form a rapport with their weapons and abilities — coordination crucial for successful runs — but with the Olympians, personified through their blessings and executed via gameplay boons.

Admittedly, Zagreus' interactions with most NPCs besides the Olympians are more meaningful regarding the main storyline and its emotional impact. After several failed attempts to escape, Zagreus learns about the existence of his birth mother, Persephone, living a solitary life away from both Olympus and the Underworld. Each successful escape grants him a few precious moments on the surface with his mother, but being bound to hell, Zagreus ends up dying every time (often in comedic ways) and being taken by the Styx back to the Underworld. This plotline drives the main narrative of *Hades*, as players repeatedly try to return to Persephone. Eventually, the quest leads Zagreus to acknowledge the issues he and his father has, and the family finally reunites at the House of Hades.



Figures 122 & 123: Zagreus' first meeting with his mother, Persephone (left). He soon learns that he cannot stay on the surface for long and must try to reach her again. After ten successful escapes, Persephone and Hades reunite in the House of Hades (right), and Zagreus finally completes his quest (the game's main storyline).

Other NPCs also play a significant role in Zagreus' life. For example, Achilles was tasked with training him since he was young, and the two have an affectionate relationship. Zagreus even helps Achilles to reunite with Patroclus, his comrade/romantic partner who fell in the Trojan War and resides in Elysium, unable to reach his former lover as their Underworld contracts bind the two to hell. Zagreus can even get romantically involved with Megaera, the first of the Furies, or Thanatos, the personification of death and his childhood friend.⁷



Figures 124 & 125: Thanatos (left) and Achilles (right), two NPCs with which players can often interact and uncover additional (and emotional) plotlines.

As mentioned, these relationships develop over time, with each death player rewarded with a few more pieces of dialogue. In his *Hades* review for *The Washington Post*, Gene Park discusses how “Failure and starting over in roguelike games are part of the experience, but the reasons usually remain utilitarian by nature” (Park 2020). Park concludes his review with the following statement:

Hades is the rare game that understands the player's journey. Rather than telling us what we might want, *Hades* gives us characters to fret over, relationships to ponder. It trusts us to care about Zag's personal and haunting questions about himself that are not only worth asking, but most importantly, worth answering (ibid.).

From a narrative perspective, these questions are better answered when exploring Zagreus' relationships at the house, with companions that players can expect to find after a grueling run. Most will offer comfort, support, and even affection. These storylines are more developed than Zagreus' relationships with his relatives of Olympus. However, the gods' role in the experience cannot be discarded since, as successful *Hades* is in its exposition, it is just as masterful in its gameplay execution. In addition, assistance from the Olympians is crucial, especially if players are hoping to complete ten runs and experience the conclusion of the main storyline. Hence, for gameplay-based rapport analysis, I will primarily discuss Zagreus' companionship with the gods, who impact gameplay more than any other NPC in the game.

The Olympians⁸

Soon after Zagreus' embarks on his first escape attempt, he begins receiving messages from his divine relatives. Athena is the first Olympian to contact Zagreus (the order of appearance of the other Olympians is random). "Hail, noble Cousin," she says. "Now, let's get you from that miserable place. I'll see that all of us upon Olympus do our part, beginning here with me." The Goddess of Wisdom will offer us her blessing, a category of boons of "divine protection and unconquerable strength," translated mechanically to damage deflection and exposing enemies' weakness. Such thematic interpretation of each god's abilities into gameplay mechanics frames their character within the narrative of *Hades*.



Figure 126: Zagreus first meets Athena, who vows to help her cousin, and provides players with defensive and tactical boons.

While the gods' motivation to help Zagreus is never fully unveiled, it is clear their reasons differ, and each acts according to their mythic and legendary repertoire, as well as by their contemporary depiction in popular culture. Athena, for example, displays genuine familiar care, while Aphrodite will often flirt with Zagreus before offering her blessing. "Why hello, hello, there, little godling," she says upon their first interaction. "I have to say you're quite the specimen, and so, I've decided I shall aid you for the moment. You interested?" Boons from the Goddess of Love can "Charm" enemies, turning them against each other instead of Zagreus. Dionysus seems interested in having more company at his frequent banquets, offering blessings that cause a "Hangover" effect that damages enemies over time. While Ares assists Zagreus so he can bring as much pain to the wretched souls of the Underworld, the "clientele" the God of War helped send there, offering boons that inflict "Doom," causing victims to take a burst of damage. As Wiltshire mentions, "the gods iconic nature gives players an intuitive understanding of what they'll broadly do," aligned with the design goal of making *Hades* straightforward in its mechanics approach (Wiltshire 2021). Despite how cluttered the screen is when multiple boons operate in conjunction, gods' abilities carry a distinct look that matches their host, distinguishing each within the visual noise often present during intense gameplay sections.



Figure 127: The screen often gets cluttered with projectiles, enemies, and boons' effects. However, each boon has its color and unique animation, distinguishing it from other visual elements.

The combination of their character and personality with the gameplay benefits offered via interaction make the gods of Olympus an intriguing case study of companionship in video games. However, *Hades*' unique structure challenges the framework of analysis implemented in this study, requiring a closer observation of the components that form player-companion interaction. Hence, the following points are considered to understand how gameplay-based rapport is formed in *Hades*.

First, none of the other companions in the game impact gameplay as much as the Olympians (except for Chaos, who is a unique character with its own plotline and abilities). Once Zagreus accepts a blessing, he usually carries it throughout the run (all gods' boons are lost upon death). Blessings can only be revoked (or "washed") mid-runs if players find the randomly placed "Pool of Purging," also located at the end of each biome, or if they replace it with another god's blessing of the same category. Boons are usually elemental and thematically based on each god, adding "buffs" (aiding Zagreus) or "debuffs" (negatively affecting enemies). For example, Hermes' boons increase Zagreus' speed and mobility, while Artemis' arrows can cause critical hits, tripling enemies' damage. The game has nine Olympians (not including Hades): Zeus, Poseidon, Athena, Aphrodite, Artemis, Ares, Dionysus, Hermes, and Demeter.

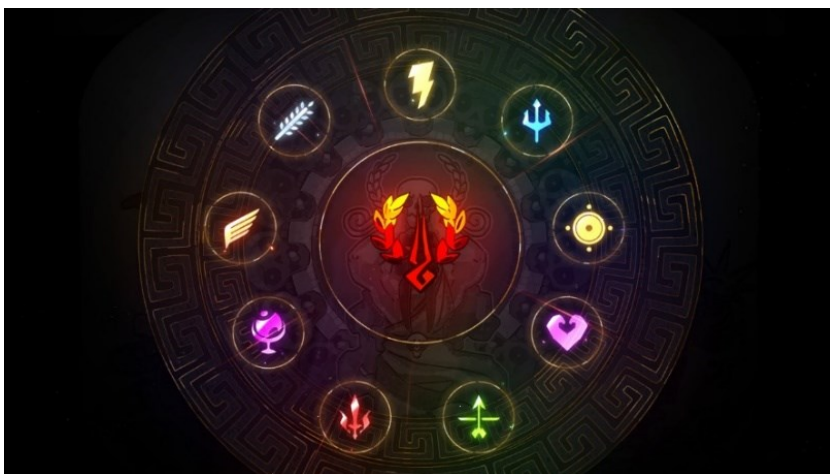
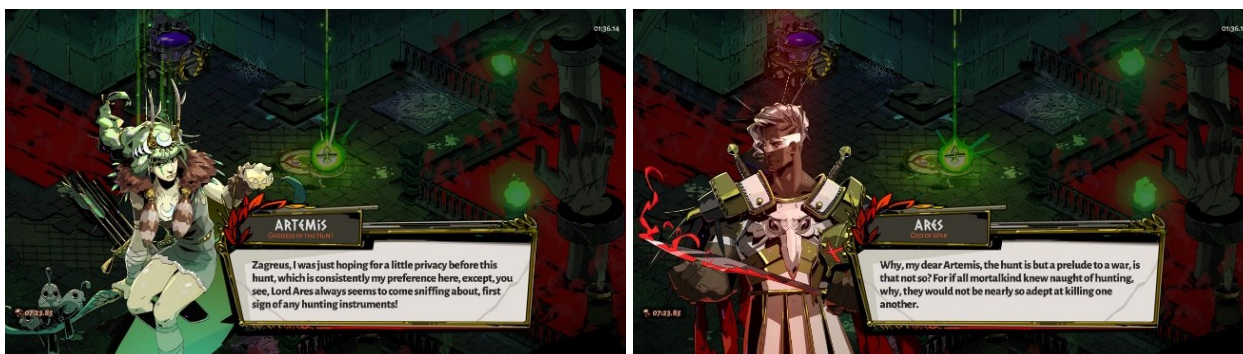


Figure 128: The Olympians' icons alluding to their assigned abilities.

Each god offers between thirteen to fifteen basic boons randomly shuffled (players can choose one of three), assigned to one of Zagreus' five abilities, or providing "passive" benefits or rewards such as health or gold. Boons also have four rarity levels, which grow in power and can be upgraded with special items players collect during runs. In addition, there are eleven legendary boons (Poseidon and Hermes each offer two) and twenty-eight "Duo Boons," a powerful blessing that combines two gods' abilities. For example, "Hunting Blades" is the duo boon offered by Artemis and Ares, transforming Zagreus' cast ability to a devastating "Blade Rift" (Ares' boon) that seeks and targets nearby enemies (Artemis' boon). Instead of simply acquiring the combined blessing, when duo boons are offered, an entertaining banter between the two gods is presented in line with their characters. "Zagreus," Artemis says, "I was just hoping for a little privacy before this hunt, . . . except, you see, Lord Ares always seems to come sniffing about, first sign of any hunting instruments!" The God of War responds, "Why, my dear Artemis, the hunt is but a prelude to a war, is that not so? For if all mortalkind knew naught of hunting, why, they would not be nearly so adept at killing one another." Artemis, valuing her solitude above all else, displays her disdain, saying, "Look, Lord Ares, if I lend you better marksmanship ability, you think that you can bother someone else?"



Figures 129 & 130: The banter between Artemis and Ares when offering their duo boons contributes to how their personality is framed in the game, referring to popular tropes regarding their characters.

As can be seen by this plethora of available mechanics, gameplay changes considerably when obtaining boons, and due to their sheer number, players can form virtually endless combinations in creative ways to enhance and alter Zagreus' combat abilities in each run, significantly contributing to *Hades*' replayability which is crucial for the narrative's progression.

Another consideration when analyzing companionship with the gods is that unlike some NPCs in *Hades* (especially ones providing romancing options), interaction with the Olympians does not breach the analysis framework, although this argument must be carefully examined. As established, companions in the context of this study must fulfill a central role throughout the entirety of a video game. While this is certainly the case with the Olympians, their role is embedded primarily in gameplay rather than narrative, at least until players reach the epilogue, which centers on the gods and requires a certain affinity level between them and Zagreus. However, the framework also establishes that players cannot influence the companion's attitude towards the player-character via dialogue trees and, in most cases, do not directly control the companion⁹ (see Chapter Four).

Here I am obliged to qualify since, depending on the context and interpretation, players can (to some extent) influence the god's attitude, even temporarily, towards Zagreus. This can be done in several ways, chiefly among them simply choosing which god's boons to obtain. After clearing each chamber from enemies, paths to the next become available. These gateways carry icons symbolizing which item/reward/boon players will find in the next chamber. The gods, naturally, would not demote themselves to the depths of hell to assist Zagreus and, as mentioned, are never physically present when interacting with their kin. They speak to Zagreus through divine messages and send him their blessing, which he must accept (players cannot progress to the next chamber until collecting the reward of a cleared one), but there is never a direct dialogue between him and the gods. Hence, choosing a gateway with Zeus' icon over Demeter's will lead to a chamber ensuring his (random) blessing, triggering a spoken message from the King of Olympus. Demeter will not acknowledge this choice, but it is, nonetheless, a choice made by players rather than by the game.



Figure 131: After clearing a chamber, an icon with the corresponding reward appears on gateways (Demeter's boon on the left door, Zeus' on the right), allowing players to decide which one to choose.

Gods, however, acknowledge Zagreus' choosing of one god's boon over another in chambers presenting the "Trial of the Gods." In these chambers, players are offered a boon from

two different gods, but it comes at a price: players must only accept one, rejecting the other. Before choosing, Zagreus often tells himself (and us), “Whichever god I don’t pick won’t be pleased.” Indeed, the spurned god, insulted, will send waves of enemies to attack Zagreus, supporting them with divine powers and teaching the ungrateful prince of the Underworld a painful lesson. Surviving the harsh attack will pacify the angry deity, who will dismiss the incident as an unfortunate misunderstanding, gift Zagreus a blessing, and urge us not to repeat such a mistake.

While this decision is not made via a dialogue tree or an optional conversation, players clearly “influence the companion’s attitude towards the player-character.” This choice, however, is strictly in service of gameplay and has no implications on the narrative, the game’s structure, or the following events. In other words, unlike games in which choosing one path (or a companion) over another will inevitably result in missing content or lead to a different ending (resulting in an incomplete mapping of possible interactions), players’ choices in *Hades* are in favor of players, not against them. Despite the extra challenge, players are rewarded with two boons instead of one, assisting them in their current run. No god holds a grudge against Zagreus, which would otherwise compromise future interactions. As discussed, consistency is crucial to forming believable companions, yet incidents of the Trial do not carry beyond this brief interaction. This, however, can be rationalized when considering who these companions are; capricious divine entities elevated from all else who entertain themselves by assisting Zagreus, and seeing his actions as a momentary insult soon to be forgotten.

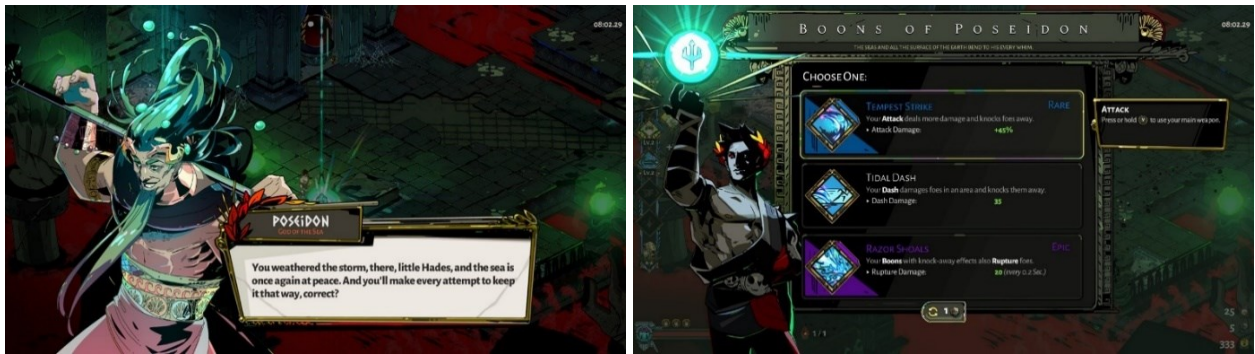
To illustrate how this interaction functions in service of gameplay, we can consider, for example, a Trial where Zagreus is facing the choice between Zeus and Poseidon. If, say, players use a weapon with a ranged attack, then Zeus’ lightning bolts would effectively damage enemies

at a distance, complementing the weapon of choice. In this case, players might pick Zeus, hoping to receive the “Thunder Flourish” boon that omits lightning bolts from Zagreus’ weapon.



Figure 132: Players face the “Trial of the Gods” and must choose between Zeus and Poseidon.

Another consideration would be which god powers players prefer to face, knowing that the one rejected will unleash wrath upon Zagreus. “Not the hardest choice you’ve ever made!” Zeus will say when choosing his blessing, but Poseidon will not accept this insult lightly: “Nephew, what you have just done is tantamount to spitting in my face! Let me remind you, then, the ocean can spit back!” he will protest, and send enemies aided by his deadly waves to punish us. Choosing Zeus’ lightning attack can help survive the encounter, making the decision of which boon to accept and which to reject crucial before the inevitable clash with the disgruntled god. Overcoming the Trial, Poseidon, appeased, will complement Zagreus: “You weathered the storm, there, little Hades, and the sea is once again at peace. And you’ll make every attempt to keep it that way, correct?” and will gift us his blessing.



Figures 133 & 134: After successfully passing the Trial and surviving Poseidon’s rage, the God of the Sea complements Zagreus (left) and offers his water-based boons (right).

This dispute with Poseidon will not impact future interactions beyond the current chamber nor lead to different outcomes for any of the game’s plotlines. Hence, this mechanic does not require mapping other interactions or replaying the game multiple times since its impact is framed as an isolated encounter between players and companions.

Thematically, Kasavin explains that the Trial of the Gods is used to illustrate the petty nature of the Olympians who use their support of Zagreus to bicker with each other: “We had to find a way to get the gods to interact with each other and express their displeasure with you. They’re fickle, right? They love you one moment, they hate you the next” (Kasavin in Wiltshire 2021). Emphasizing how this feature is used to establish the Olympians’ character while supporting gameplay, Kasavin adds, “It’s a fun little change of pace, where you get to see another side of their personality and pick up an extra reward if you take the heat” (ibid.).

Another element allowing players to influence the NPCs (gods and most other characters) is offering them gifts. During runs or after completing specific objectives or boss battles, Zagreus can obtain nectar and ambrosia (the latter being a rare artifact), which can be used to show his affection and appreciation for those assisting him.



Figure 135: Gifting Zeus nectar and ambrosia will trigger an affectionate message and strengthen the bonds between him and Zagreus.

Hades includes an “affinity gauge,” representing Zagreus’ relationships with NPCs. After several interactions with each character (which can only be achieved by dying/completing runs), Zagreus will have the option to offer them nectar and eventually ambrosia to raise affinity level, which can be monitored in a non-diegetic codex. Once filled, a “Bond Forged” message will appear, meaning that the codex entry on the companion is complete.



Figure 136: After multiple interactions and offerings, a “Bond Forged” prompt will appear, signaling that we have maxed the affinity gauge with a companion and completed their codex entry.

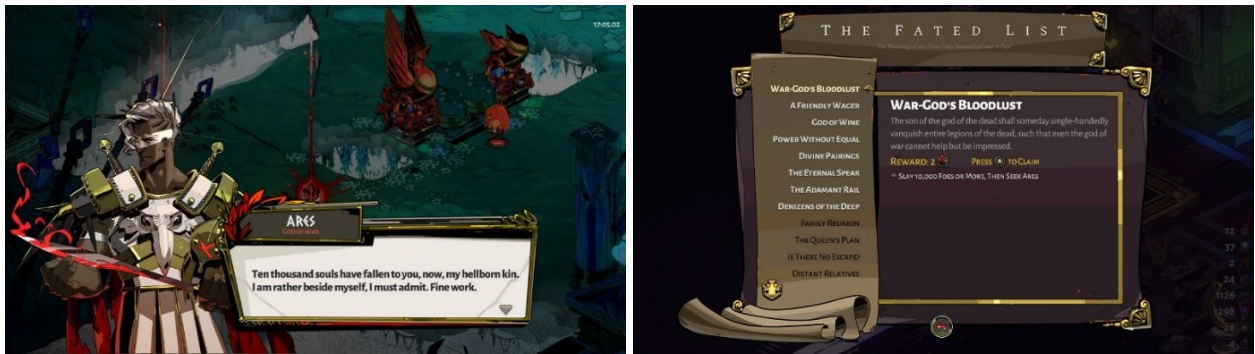
In return, NPCs will gift Zagreus a “Keepsake,” items with a specific gameplay benefit aiding him in escape attempts. Keepsakes from Olympians, however, function differently, ensuring that the next time Zagreus is offered a boon, it will be from a god whose keepsake is equipped

(players can only carry one keepsake at a time, which can be changed before a run and after clearing each biome). Offerings to the gods raise affinity levels and advance Zagreus' relationships with each god, who will respond to the gesture affectionately. For example, when gifting Aphrodite with nectar, the Goddess of Love will comment, "Lasting relationships are built on reciprocity. So if you lavish me with gifts, why, what am I to do but give you something in return?" gifting Zagreus her keepsake which will raise affinity level.



Figure 137: A maxed affinity with Aphrodite and her complete codex entry players can access from the game's menu.

Frequent interactions with the gods can also lead to them requesting Zagreus to complete specific tasks. These can be as simple as listening to hunting stories (Artemis), fish (Poseidon), or gifting other NPCs with ambrosia (Dionysus). Tasks, much like boons, are also framed around each god's character. Ares, for example, will task Zagreus with killing ten thousand enemies. Once completed, the God of War will complement Zagreus, "Ten thousand souls have fallen to you, now, my hellborn kin. I am rather beside myself, I must admit. Fine work." Besides strengthening the bonds between Zagreus and each god, completed tasks will also grant Zagreus rewards for fulfilling "prophecies" from "The Fated List," curating all quests and storylines in *Hades*.



Figures 138 & 139: Completing Ares' task and killing ten thousand enemies will trigger a message from the God of War (left) and fulfill a "prophecy" (right) which earns precious rewards.

However, while carefully framed within the narrative, all these mechanics are gameplay focused. Players can complete the game and never gift anything to the gods; the result will be similar. The game, however, will no doubt be harder, emphasizing how *Hades*' design prioritizes gameplay and is in service of players. By assigning abilities to the Olympians, Supergiant Games could support *Hades*' narrative structure without negatively impacting players' autonomy, which is crucial in a roguelike game that thrives on an experimental, creative gameplay loop.

The Olympians' role also helps frame the tense relationship between Zagreus and Hades, as well as the prince's character and sense of isolation early in the game before meeting his distant relatives from Olympus. At times, an ominous image of Hades will appear before players begin a new run, trying to despair Zagreus' hopes of escaping. In one such instance, Hades gives Zagreus a harsh lesson about family: "Family? Death is your only family. Death, and I. Best get accustomed to the both of us."



Figure 140: Hades often delivers a menacing message before a new run begins.

The image of the joyful, carefree Olympians is in sharp contrast to the stoic, ominous image of Hades. He often expresses disdain from his proud relatives on Olympus, and if Zagreus defeats him in battle using multiple gods' boons, Hades will protest, saying that Zagreus was only able to defeat him because of their help.



Figure 141: Loosing in the battle to Zagreus, Hades protests, “were it not for my wretched kin upon Olympus, you...”

Hades purposely distances himself from the Olympians, which is how he is often described in classical texts. As Hamilton explains, Hades rarely “left his dark realm to visit Olympus or the earth, nor was he urged to do so. He was not a welcome visitor. He was unpitiful, inexorable, but

just; a terrible, not an evil god” (Hamilton 1942: 28). Clearly, the Olympians are not very fond of him as well, and at least some of them, primarily his younger brothers, find pleasure in helping Zagreus to defy his father. Hades’ character evolves significantly throughout the game. Once players can complete ten runs (meaning they have defeated him ten times), Persephone returns to the Underworld, and his character gradually softens. In the epilogue, he even agrees to host the Olympians at his house, for which players must go for additional runs to deliver each one a personal invitation.



Figures 142 & 143: The game’s epilogue asks players to reunite the divine family, the Underworld, and Olympus (left). The Olympians even offer a tribute, a model of Mount Olympus that players can marvel at (right).

Designing players’ abilities (or even weapons) as characters has been done in other video games (including in previous Supergiant Games projects). However, *Hades* is unique in how it implements this design within the roguelike structure while simultaneously complementing and enriching the narrative. The Olympians are fascinating characters, as their personalities are weaved into abilities instrumental in diversifying gameplay. Curiously, while they impact gameplay more than any other companion discussed in this study, their character is bound to the narrative and is strictly scripted. They cannot break immersion through gameplay since their believability is

relative to their function, which is not impacted by AI, an element out of players' control. Hence, evaluating their believability using the framework of The OZ Project might not be fully applicable since the Olympians are not designed as agents aiming to display believable character behavior, but as characters who are in complete control of the narrative design. Nonetheless, we can evaluate several key features making them believable within the game's context.

1. Olympians display rich and unique personalities, separating them from one another in exciting ways and highlighting their traits as projected from their contemporary interpretation.
2. Their emotions parallel their essence as mythological gods, a personification of different phenomena. For example, Aphrodite's interactions and abilities allude to love and beauty, while Athena's to wisdom and benevolence.
3. The Olympians are not constant companions and act only upon the player's input. This might jeopardize their believability, but interactions always suggest that the gods are occupied with their divine affairs, motivations that complement their characters. For example, when interacting with Artemis, she will often comment that she is in preparation for a hunt, while Dionysus will invite us to a party he currently attends.
4. The Olympians' established characters never breach their classical depiction, but they grow fond of Zagreus and often praise his determination. The affection they show Zagreus is consistent with their personality, and they never "break character," even if players shower them with gifts. Zeus, for example, will take such gestures for granted, as he is accustomed to these earthly offerings ("you honor me, young man, as well as you should, for I am ruler of Olympus, am I not? Such courtesies are shown to me constantly, yet I appreciate them all"). Aphrodite, on the other hand, will interpret Zagreus' gesture as a sign of affection

(“My, but if this isn’t a treasure to behold, and I accept it as a sign of your affection! Or something even more, perhaps...?”).

5. Duo Boons and Trial of the Gods allow the Olympians to interact with each other, revealing their pettiness, but also fondness of one another. These interactions offer players a window into the familial bonds the Olympians share. In one such instance, when a Duo Boon between Aphrodite and Poseidon is offered, The Goddess of Love comments, “The things to know about this family, dearest, is that, each of us, we have our little quirks. Although, we have always stick together and our love for one another perseveres!”
6. Although the Olympians are not animated and only appear in a slide portrait, the art design captures their spirit, theme, and personality. Their expressions, while static, are nonetheless vivid, coupled with clever writing and superb voice acting that illustrate their mood, clearly signaling if they are content with Zagreus or displeased with him. Their absence from the game’s (Under)world is thematically believable, and limiting interactions via divine messages preserve their illusion of life within the game’s context and presentation.

The Olympians’ rich characters add an exciting layer to gameplay-based rapport. In most action games, when players decide between an electricity-based weapon or one that causes critical damage, they will do so based on weapon stats, enemy types, or ease of use. In other words, the gameplay is the main (if not only) consideration. While players might be attracted to a weapon’s design or other aesthetics, attachment is primarily utility-based but rarely emotional. However, when the electricity-based weapon is a personification of a condescending, all-mighty uncle, and critical hits abilities are depicted as a reserved, solitary huntress, players are suddenly faced with an emotional decision, elevating the gameplay experience beyond its mechanics. Before their functionality in gameplay, the Olympians are, first and foremost, believable companion characters.

These two layers of rapport are not always parallel, meaning that players can find themselves conflicted (and, as recalled, drama creates meanings), which is rarely the case when choosing gameplay styles. Do I want to listen to Ares' warmongering message, or am I in the mood for a lighthearted interaction with Dionysus? "You know, Zag," the God of Wine says in one interaction, "maybe once you get here, you could get old Ares to just lighten up a little, you know, man? Always dragging down the mood, with talk of blood, and nastiness, all sorts of stuff like that!" To which Ares responds, "Why, my Lord Dionysus! I fail to see why such discussion is perceived as unbecoming of a feast. A successfully conducted war is certainly a cause for celebration, is it not?" However, what if I value Ares' "Doom" ability over Dionysus' "Hangover" effect? These choices become meaningful by thematically personifying gameplay attributes. Framing gameplay through such innovative design creates an emotional interaction rarely seen in roguelikes.

Kasavin discusses the process of marrying writing and gameplay design goals. During *Hades*' development, he and the team struggled to decide which Olympians should be part of the game's cast, debating who could complement the narrative in meaningful ways and add interesting gameplay variety. One such case was with the Goddess of Seasons (or agriculture), Demeter. "From a writing standpoint," Kasavin says, "I'd love for Demeter not to be in the picture, because the story's complicated enough as it is. But then, months into development, I felt very cowardly about that. Wait a minute. Demeter is important, this is a story about family. And furthermore, it feels shameful that this character hasn't been rendered in an interesting way, to my knowledge" (Kasavin in Wiltshire 2021). Demeter, the mother of Persephone and Zagreus' grandmother, is at the center of the most vital myth around the Underworld, the abduction of her daughter by Hades. Her character is essential to expand their story and further develop their arcs. Once she discovers

her daughter is alive (and her relation to Zagreus), Demeter's involvement in their quest becomes consequential, personal, and moving.

However, it was difficult to see which compelling abilities she could add from a gameplay standpoint. The team had several elements attached to the gods' powers but wanted to add an ice-based ability. Usually, developers can simply design any weapon type without much consideration of how it will impact the narrative. In *Hades*, if the team needed an ability that could freeze enemies, they must create a character to host it. This, at first, was difficult to achieve with Demeter. "You have a guy who can strike people down with lightning, and you have someone who grows wheat. So that sounds awful," Kasavin said (ibid.). However, as Persephone's mother, whom she presumes dead, Demeter is integral to the narrative, so Kasavin framed her as a grieving mother who inflicts an eternal winter upon the earth in her lament. Kasavin explains, "She's a mother who's lost her daughter and she's mad. She's past the initial stages of grief and now there's this bitterness. So she's like, alright, fine, you took something from me, so you'll have winter. It felt so clean." The game's surface is indeed engulfed in a never-ending winter, and Demeter, the bringer of winter, presented the team the opportunity (or, as Kasavin admits, the excuse) to finally add ice powers.



Figure 144: Learning her daughter is alive, Demeter tells Zagreus it might be time to lift the winter she inflicted upon the surface in her sorrow. Players, however, can keep using her ice-based boons.

Player and gameplay-based rapport: conclusion

“we’re making games, and we have to take advantage of what’s unique about the medium”

(Kasavin in Wiltshire 2021).

Hades, an indie title with a modest budget, developed by a team of twenty people, successfully blended the core components of video games to a degree only a few AAA studios could match in recent years. This is evident by its critically acclaimed reception, acknowledging its engaging, satisfying gameplay and innovative mechanics alongside a well-crafted narrative that flawlessly complements gameplay without dictating its pacing in intrusive ways. *Hades* won the “Best Action” game in the 2020 Game Awards while also being nominated for best narrative and game direction (as well as game of the year). Despite not winning these categories, *Hades* won best narrative and best game in the British Academy Games Awards, hosted by the prestigious British Academy of Film and Television Arts (BAFTA) awards. Among numerous other awards for its game design and narrative, in 2021, *Hades* made history by becoming the first ever video game to win a Hugo Award, honoring fantasy and science fiction works since 1953.¹⁰

These accolades demonstrate how *Hades* excels not only as a narrative-driven game with compelling gameplay, nor only as an excellent action game with clever storytelling. The game is rare in how these elements are equally significant and executed simultaneously, resulting in a unique, emotional, and exhilarating experience. This chapter demonstrated how rapport with the game’s companions is formed primarily through gameplay, which is never isolated from the other components. Players’ high autonomy guarantees that players, if they choose, can ignore the narrative almost entirely and focus on the incredible diversity of playstyles enabled by the game’s mechanics. Zagreus cannot control his situation, both thematically and physically, as players make all the choices on his behalf. We decide which blessings he receives, which weapons to carry in

escape attempts, and even whom he romances (which is beyond the frame of this study). However, *Hades*' ensures no conflict between the player-character and the player due to Zagreus' full autonomy over dialogue (which players initiate) and players' full autonomy over gameplay (which Zagreus executes).

Players' ability to build rapport with the Olympians is at the gameplay experience core, enhancing the game's performative aspect and enriching its narrative. This ludic rapport establishes a kinesthetic link between player and companion, despite the fact that the Olympians' presence manifested only via their blessings. Isbister discusses how body cues have a "pervasive influence on social relationships and are therefore an important part of crafting truly engaging game characters that feel lifelike and that evoke social reactions from players" (Isbister 2006: 161). This is especially interesting in *Hades*, since players' synchronization with companions is seamless, with Olympians' powers interfaced via Zagreus' execution. The gods' characters rarely diverge from their common depiction in culture, alleviating the need for a lengthy exposition of their personalities and abilities.

Hence, in constructing these characters, Supergiant Games could rely on their recognition, implementing mechanics that match their popular traits (or thematically adjust them, as in Demeter's case). The designers also tapped into the Olympians' social network, which in the case of NPCs, Lankoski and Bjork explain, is a tool that "can be used to provide the sense of the game world as emotionally believable, and therefore to provide a basis for emotional attachment to the setting" (Lankoski and Bjork 2007: 7). Mechanics such as Duo Boons and Trial of the Gods are prime examples of the access players granted into the gods inner circle, a compelling storytelling device, as well as providing gameplay benefits (Duo Boons are among the most powerful blessings, and the Trial, if successful, rewards us with two boons).

Witnessing how all these components complement one another is perhaps *Hades*' most remarkable achievement. Wiltshire echoes this argument, saying, "It's exciting to play a game that marries authored storytelling, a strong theme and dynamic interactivity so seamlessly. But *Hades*' real success is that when you're playing, it's easy to forget just how progressive and clever its narrative design is" (Wiltshire 2021). Few games, especially in the roguelike genre, can integrate narrative design within gameplay to build relationships that enhance both. One example that comes to mind when analyzing the relationships between Zagreus and the Olympians is *PaRappa the Rapper*, a rhythm game released in 1996. Isbister uses this game as a case study in examining emotions in games. *PaRappa the Rapper*, much like *Hades*, might not intuitively be seen as a game (in a genre) that best demonstrates video games' potential for emotional interaction. However, as Isbister explains, the game's clever NPC design is connected to its unique genre:

As a rhythm game, *PaRappa* makes use of the deep-seated tendency we have as humans to form affectionate ties with people with whom we are in close physical synchrony. To succeed, players must closely copy the NPC mentor, contributing to a feeling of affection for them. If, like most people, players don't get the level right the first time, they end up spending quite a bit of time with each mentor, closely attending to their rap and trying hard to improve (Isbister 2019: 139).

This is a fascinating exploration, primarily because of how dissimilar rhythm games are from roguelike action games, yet at the same time, how this observation can be easily applied to *Hades*' approach of rapport building with NPCs. With every god offering multiple blessings, each impacting weapons and abilities in numerous ways, players are inclined to meet the Olympians and try to master the abilities attached to their blessing, to perfectly coordinate attacks between physical

weapons and divine boons. Simultaneously, the random nature of procedurally generated chambers and the inevitable failure state forces, and ultimately encourages, experimentation with other blessings, forming a vast network of social interactions between Zagreus and his relatives. Hence, we can apply the LRI model to *Hades* in order to map its gameplay-based rapport and interactions:

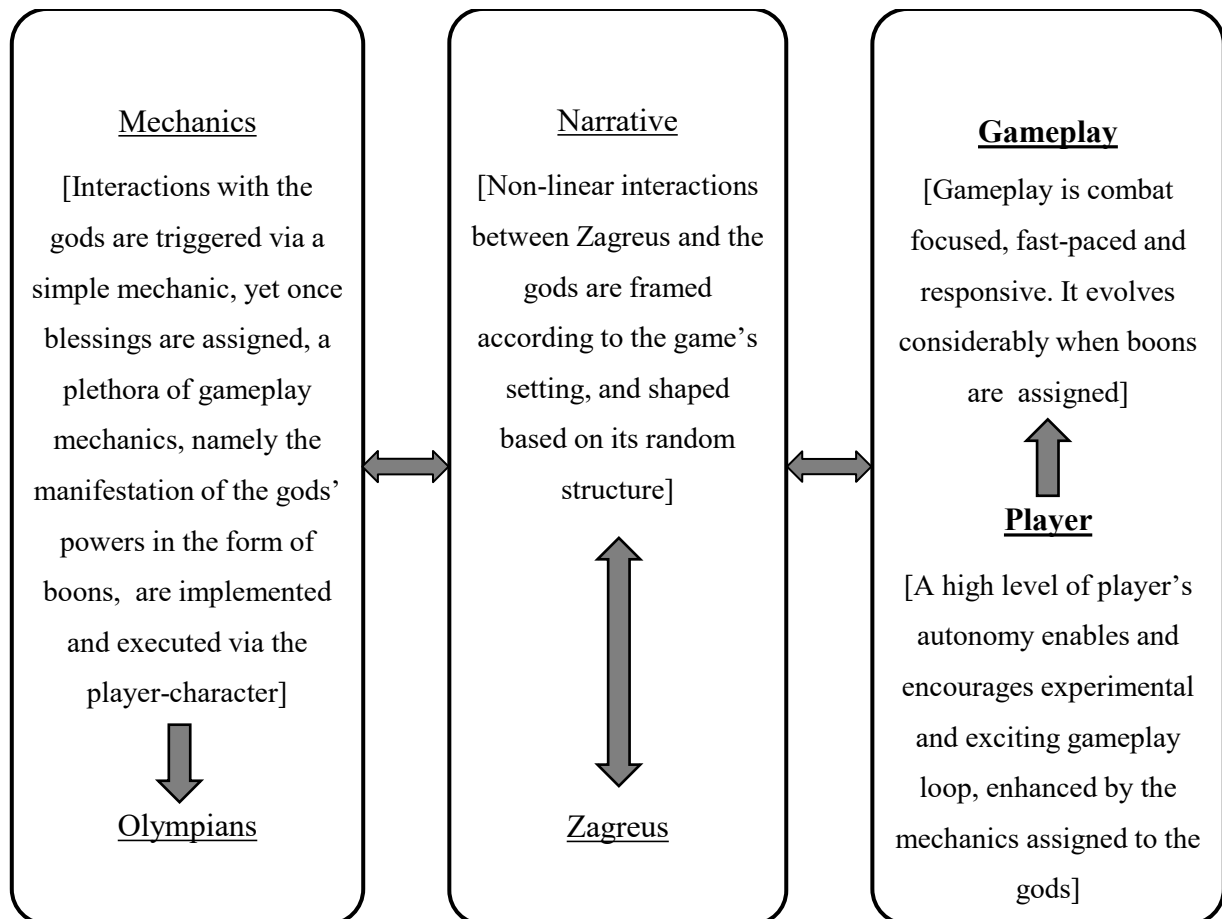


Chart 10: Mapping interaction in *Hades* according to the LRI model. Players are the dominant participants, with gameplay-based rapport shaping companionships.

Hades' gameplay cannot be separated from its story (supported by captivating aesthetics). What ultimately binds all these elements together is the bond players form, through Zagreus, with the NPCs in the game. As Nico Deyo explains, "*Hades* could have just had NPCs who were further

cut off from Zagreus emotionally, serving as mere buff dispensers, but instead they are welcoming compatriots, crushes, and perhaps even partners-to-be” (Deyo 2020). The writing is a significant factor in how impactful and effective these relationships are (as Park notes, “Roguelike games simply aren’t known for writing like this” 2020). However, ultimately, the gameplay is the vehicle to experience this Greek tragedy. Despite *Hades*’ numerous narrative awards, Kasavin acknowledges that “There are much more efficient and probably better ways to tell linear stories than through games. But we’re making games, and we have to take advantage of what’s unique about the medium, which is its interactivity” (Kasavin in Wiltshire 2021). Regarding *Hades*, Kasavin says that the story could technically be told in other formats, such as a comic book series. However, he adds, the entire basis for the story flows from the roguelike design: “If we didn’t think about the structure and the player experience, with roguelike games where you die and start over and move forward with only your knowledge, we wouldn’t have even had the idea for the story of this game” (Kasavin in GameSpark 2021: 5:20 – 5:55).

This is a fitting conclusion for this chapter, demonstrating how the tension between narrative and gameplay within a rule-based (mechanics) system is not seen as an obstacle for emotional works done in the space of video games. There are unique considerations, of course, but creative designers use them as opportunities rather than obstructions, with some, like Supergiant Games, building the entire concept and experience around the design. The result is a game that presents a focused narrative despite its nonlinear, random structure and compelling, believable characters despite not integrating any AI systems in their functionality. *Hades* can be emotional and amusing, moving and challenging in both its gameplay and some of its themes. It presents a different form of companionship than most games, a relationship that serves the narrative and significantly impacts gameplay in meaningful ways. This combination, and the characters that aid

Zagreus to escape (and later embrace) hell, make *Hades* a memorable and, just as important, a fun (gameplay) experience.

Chapter Eight, Addendum:

Putting it all together: *God of War*¹

This study often stressed how each game is unique based on its design goals, as illustrated via the case studies analysis. These titles all effectively allow players to experience emotional interaction with NPC companions. However, their design goals and methods vary greatly, not only in how they implement themes of companionship but also in how design is impacted by its presence. *A Plague Tale* design centered on its theme and characters, leading to the narrative, experienced through player-character as the dominant component/participant in the interaction. *The Last Guardian* follows Ueda's design approach, a mental image realized through interaction mechanics with a close companion in a desolated environment. *Hades* was designed based on its gameplay experience first, with companionship as a central theme grafted to complement the mechanics narratively and functionally.

Based on their design, each game offered players different tools and frames for rapport formation, yet this aspect was constantly at the core of the experience. Another similarity between these games is the fact they are all independent of other titles; these are original intellectual properties that are not (at the time of release) linked to other games or transmedia products, allowing them a “blank slate” design without having to consider how their themes fit or impact an established universe and characters.² In this concluding chapter, I discuss a case study that is part of an established, long-running franchise, *God of War* (Santa Monica Studio 2018). This game presents an equilibrium in its rapport formation by assigning specific roles to each interactant based on a different component. *God of War* showcases the useability of the LRI model in its entirety and is a prime example of a video game designed around player-companion interaction. The narrative,

mechanics, and gameplay not only complement and elevate one another but are simultaneously shaping and shaped by the relationship between all participants, demonstrating the effectiveness of the feedback loop offered by the medium.

God of War, directed by Cory Barlog, tells an intimate tale between father and son. It is presented in a single, unbroken shot, seamlessly shifting between cut scenes, storytelling, and gameplay. With its slow pace and intimate narrative, *God of War* draws inspiration from Cormac McCarthy's *The Road* (2006), a story about the journey of a father and son in an unforgiving post-apocalyptic America as they make their way toward the coast in search of food and shelter. *God of War* presents an expertly crafted exposition, a dense escalating plot, and a grounded exploration of the relationship between its main characters, the father, Kratos, and his son Atreus. Kratos is the player-character, a well-established protagonist with a rich and detailed history who appeared first in a 2005 game bearing the same name. This is important to consider when analyzing *God of War* since the narrative is not confined to the latest iteration but is spread across multiple games involving Kratos. His background heavily influences his relationship with Atreus, the companion (Barlev 2021: 15).

Atreus is Kratos' adolescent son, whom players meet for the first in this current title. The two embark on a journey throughout the realms of Norse mythology to spread the ashes of Kratos' deceased wife and Atreus' mother from the highest peak in all the realms. As players are presented with this goal from the opening sequence, they are quickly thrown into an unfamiliar setting, responsible for protecting a character they know little of (ibid.). Players learn about Atreus through Kratos, and much like his estranged father, players' feelings towards the boy are gradually shaped alongside Kratos. This is done through in-game dialogue and cut scenes but also via exploration, quests, and combat, all related to game mechanics that shape the interaction with Atreus.

God of War's design demonstrates how each component was considered and evaluated from early development based on its relation to player-companion rapport. Barlog based the design on the following play pyramid that defines the moment-to-moment experience:

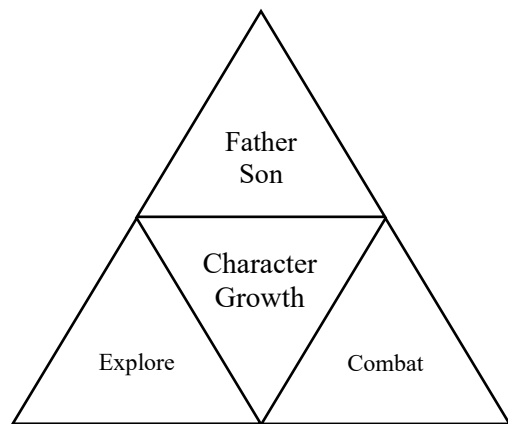


Chart 11: *God of War* Play Pyramid
(Barlog 2019b, 21:00).

Every element added to the game in its design phase had to contribute to one of the core concepts of combat, exploration, and narrative (in the form of the relationship between father and son).³ The central piece is focused on character growth, meaning that no matter which game concept the player is engaged with, they all feed into character growth, helping to further the characters' arcs (ibid.). Consequently, players can define how Kratos acts within the context of the game's world, but he is also bound to his established character. Across seven games in the series, Kratos has been a tormented character, motivated by revenge and defined by tragedy, cruelty, and grief (Barlev 2021: 16). His character growth in previous titles was limited, and so were the settings where the games took place, all set in or inspired by Greek mythology. From a storytelling perspective, these constraints were addressed by displacing Kratos (and players) from a familiar environment and having rather selfish character care for someone besides him, providing a motivation other than the will for revenge.

Atreus was primarily designed for this purpose, but in addition to the narrative transformation, the inclusion of the son also enabled the designers to reinvent the series' gameplay and mechanics, all while supporting character growth and rapport building in various ways (ibid.). The following sections will briefly explain each core concept and discuss how it correlates to a component of the LRI model.

Narrative (father and son)

Kratos' established background and characteristics heavily impact his relationship with the game's world, used to force him and Atreus to interact often despite how little they know each other. For example, Atreus, native to the Norse lands, can translate runes scattered in the environment, and ciphering them is crucial for progression. He is interested in the lore and legends of the gods with whom he shares his world, and he keeps a journal where he documents his findings, thoughts on his father, and the things his mother taught him. On the other hand, Kratos is a foreigner who finds refuge in the Norse lands, which he barely knows or understands. He cannot read Norse runes, making him and the players often dependent on Atreus to make sense of the world around them.

Players experienced Kratos' origins in Greek mythology as the fallen god of war while playing past games. Like him, they are now detached from their familiar setting, trying to adjust to a new environment and understand its peculiarities. Early in the game, Atreus is the only link between Kratos and the players and their new environment, introducing it and explaining its mysteries (ibid.). These allow for meaningful sequences in rapport formation between players and Atreus, as it connects to the concept of teaching embedded in the narrative. Kratos teaches his son what it means to be a god, a notion the players experienced in previous games. In turn, Atreus is teaching Kratos what it means to be a human, something he had forgotten long ago and state players

rarely encountered (ibid.: 16 – 17). As Patrick Klepek’s review describes, “One of the game’s regular riffs is how Kratos’ strength does little to help him understand other people, while Atreus has spent his life learning about other people and culture from his mother” (Klepek 2018).



Figure 145: Atreus deciphers runes and translates for Kratos, providing exciting exposition. These also trigger interactions between father and son. In this scene, Kratos is impressed by his son’s ability to read the runes.

This element is expressed narratively and mechanically and eventually affects the gameplay itself, demonstrating the framework’s flow and the components’ interrelatedness. The designers gave Atreus a separate upgradeable skill tree, where the player/Kratos can “teach” him new abilities and upgrade his defensive or offensive skills in combat by investing skill points and resources. This responsibility for teaching deepens the parental rapport the game is designed to evoke (following the core concept of father and son), as it asks players to spend skill points and resources on new abilities, weapons, and armor for Kratos or his son (Barlev 2021: 17).



Figure 146: Kratos and Atreus have different skill trees but share the same resources for upgrades. Players must decide how to allocate these valuable, hard-earned resources.

This decision ultimately materialized through gameplay, meaning players can base their decision on gameplay-related factors: aggressive or defensive playstyles, number of resources available, or full completion playthroughs being some of them. However, a unique factor to consider in *God of War* is the state of rapport with Atreus when making such choices. The answer might seem simple during most sequences and rely mainly on practical gameplay considerations. However, in later sequences, Atreus becomes rude and frustrated with his father; his attitude is harmful and vulgar, resulting in offensive comments towards Kratos and defying the players' commands. At this stage, where Atreus' behavior is hard to bear, players must ask themselves if they are willing to invest hard-earned resources in a character that defies and insults them, regardless of how these decisions will impact gameplay (ibid.).

Mechanics (combat)

Atreus contributes unique skills that are vital to progression and are tied to the narrative, as the game shows a strict adhesion to the logic of its world by employing mechanical conceits. One such mechanic tied to Atreus in support of rapport is his archery skills in combat sequences. Atreus' deceased mother trained him to use a bow and arrow, a narrative element translated mechanically

to his ability to shoot enemies on players' command. While Atreus is independent in battle even without the player's input, this mechanic is a valuable gameplay tool as commanding Atreus to fire arrows draws the enemies' attention, giving Kratos an opening to strike while opponents are distracted (ibid.).



Figure 147: Atreus (on the right) is ready to fire at an enemy, insisting he is prepared to decide when to engage in combat. Kratos orders the boy to follow his instructions, saying, “Be silent and do not question me.”

As mentioned, in later sequences, Atreus becomes rude and does not consistently execute the commands made by the player to fire arrows, reflecting the troubled father-son relationship experienced throughout the journey. Another mechanic related to combat is healing: when Kratos falls in battle, Atreus has a short window to revive him using a healing stone that players can craft and assign to him. This mechanic again highlights Kratos' dependency on Atreus. Yet, it also reveals Atreus' dependency on his father, which is clearly expressed in the case of players failing in battle, resulting in Kratos' death. When this happens, Atreus rushes to his dying father, crying, “*No, don't leave me alone here!*” a cry directed at Kratos but also at us, the players, emphasizing the player-character's parental role and evoking guilt for failing to fulfill our responsibility to defend him (ibid.: 17 – 18).

In other sequences, Atreus falls ill, and Kratos must travel alone to Helheim, the realm of the dead in Norse mythology, to save his son. On the one hand, removing the companion disrupts the framework, but on the other hand, as previously seen, it reinforces it. The companion's absence emphasizes its significance, similar to when Amicia is separated from Hugo, the boy from Trico, or Zagreus from the gods' blessings. Narratively, it is expressed by Kratos' distress and anxiety, a genuine dread for the life of his son shared in the players' sense of urgency. Mechanically, the absence of Atreus strips away valuable elements in combat and leaves Kratos vulnerable without the boy's healing abilities, significantly crippling gameplay and limiting the player for the duration of these sequences. Such events demonstrate the player's dependency on the companion, and vice versa, forming both a functional and emotional rapport (ibid.: 18).

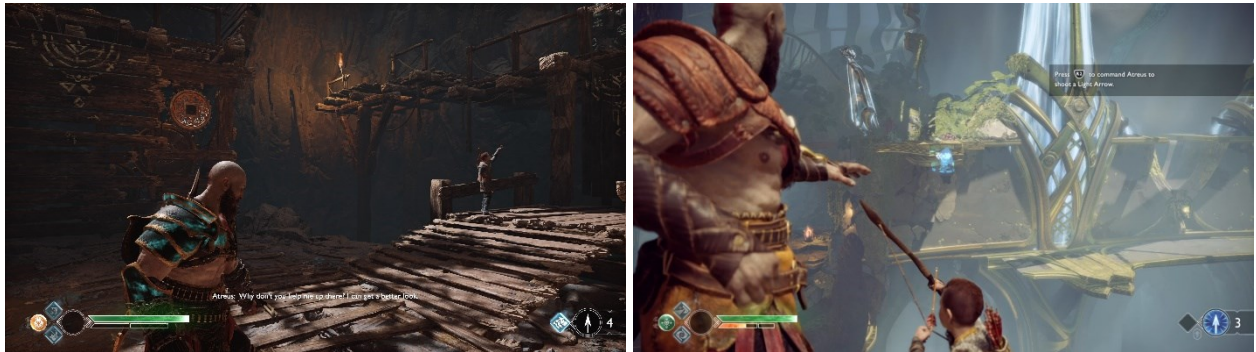


Figure 148: Atreus can obtain healing stones and revive Kratos when falling in battle. Atreus' absence removes this valuable mechanic, leaving players practically and emotionally vulnerable.

Gameplay (exploration)

The final core concept of *God of War*, exploration, also supports rapport between players and Atreus and relates to some of the most intimate times the two share. As in many games featuring companions, the two are codependent in exploration. Kratos can boost Atreus to high ledges where ropes can be dropped down, allowing Kratos to climb up. Atreus' ability to use his bow is also

crucial in exploration. His arrows are the only way to clear toxic barriers from the environment or activate energy crystals, allowing them to reach previously inaccessible locations (ibid.).



Figures 149 & 150: On the left, Atreus asks Kratos to boost him to an upper platform to solve an environmental puzzle. On the right, Kratos instructs Atreus to fire a “light arrow” at the crystal, forming an energy bridge necessary for progression.

These are precious gameplay elements, but *God of War* expands the exploration concept further as Atreus becomes a surrogate for the players’ desires while still being an independent, believable character. On several occasions, players can explore locations outside the main storyline and complete optional “side quests” such as aiding lost spirits or searching for ancient treasures. Never being the explorer type, Kratos is reluctant whenever Atreus suggests they embark on such side quests to explore uncharted locations or help those in need, all activities that most players, much like Atreus, are eager to pursue (ibid.). Embarking on a side quest is a mechanic introduced by Atreus, while the exploration is the gameplay sequence performed by the players. By implementing such a system and providing Kratos/players the choice to accept or decline Atreus’ suggestions, *God of War* can maintain its narrative cohesiveness, avoids dissonance in Kratos’ character, and allows players to project their feelings toward Atreus at different points in the game

and according to his behavior. Accepting or declining such activities influences Atreus' reaction in the sequence, yet if players choose to pursue any optional activities, they are relying on the mechanic discussed earlier that allows Atreus to read maps containing Norse runes used for navigation (ibid.).

Completing these activities, Kratos is rewarded with better gear or resources, but more important is the strengthening of rapport between players and Atreus: not only players were encouraged by the boy to lead Kratos towards new and exciting discoveries (and precious items), but side activities often allow the two to share intimate moments. Sometimes, they will awkwardly sit in a small boat in silence while paddling to or from an objective, but in others, the two will share an amusing banter, allowing players to witness a side of Kratos they have never seen before. Klepek argues that the most powerful storytelling in *God of War* stems from these moments that “has nothing to do with how the larger narrative — the war between the gods — plays out, but how Kratos and Atreus explore being father and son, now that Kratos can no longer rely on his wife to be the medium between them. He’s the parent” (Klepek 2018).

Barlog and the team at Santa Monica Studio masterfully designed a companion that players care about, even though Atreus can rarely die in battle. The initial design, however, only allowed Atreus to engage in battle upon the player’s command, which would also place him in danger of getting hurt. This mechanic of risk-reward dynamics was abandoned since the team felt it comes at the expense of the core concept in *God of War*, which in the words of Barlog is “the onus of raising a child.” (Barlog 2019a). The team shifted the design to reflect the autonomy of Atreus while emphasizing the parental role (Barlev 2021: 19):

I can never take over as my kid. I can’t suddenly hit a button and be my kid so I can go to school for him so he can have a good day at school. I can arm him the best I

can when he's not in school, with the best tools and the best knowledge so that he can survive at school by himself. And that was the drive with Atreus, that he's autonomous. He's gonna run around, he's gonna do things, and the more I do to prepare him, and that partially is the ability of upgrading certain things, but it's also interacting and talking and participating in the story, the more I teach him and the better he becomes (Barlog 2019a: 08:52 – 09:30).

The decision to set Kratos with such a personal goal, embarking on a journey with his son to spread his wife's ashes, had nothing to do with revenge against gods and monsters, the franchise's hallmark since the mid-2000s. Kratos was always seen as the embodiment of video games' male power fantasy. However, Atreus allowed him (and us) to explore new and uncharted aspects of his complex character, which were rarely explored as effectively as in this title. The companion's role in *God of War* reshapes the legacy of one of the medium's most iconic characters. However, as Klepek notes, his inclusion was one of the biggest question marks regarding the game: can the counterpart to the player-character in *God of War*'s core relationship be believable *and* functional? He says:

God of War isn't the first game to propose a sidekick, but there's a reason most games avoid the temptation: It often doesn't work. How many times have you screamed at incompetent AI, knowing their mistakes were responsible for your death? It drags everything down. Fortunately, Atreus not only works, but he's the reason the game works at all. The roughly 10-year-old . . . is tightly woven into the game's combat and story: In fights, he's a versatile tool for tackling those in your way, and in cutscenes and conversations he's the audience surrogate, a living metanarrative critique of Kratos' purpose for existence (Klepek 2018).

God of War “play pyramid” mirrors the LRI model’s components and strengthens the argument regarding the need to consider games’ holistic form, even when evaluating individual aspects. We can consider how the interactions in *God of War* are mapped within the framework:

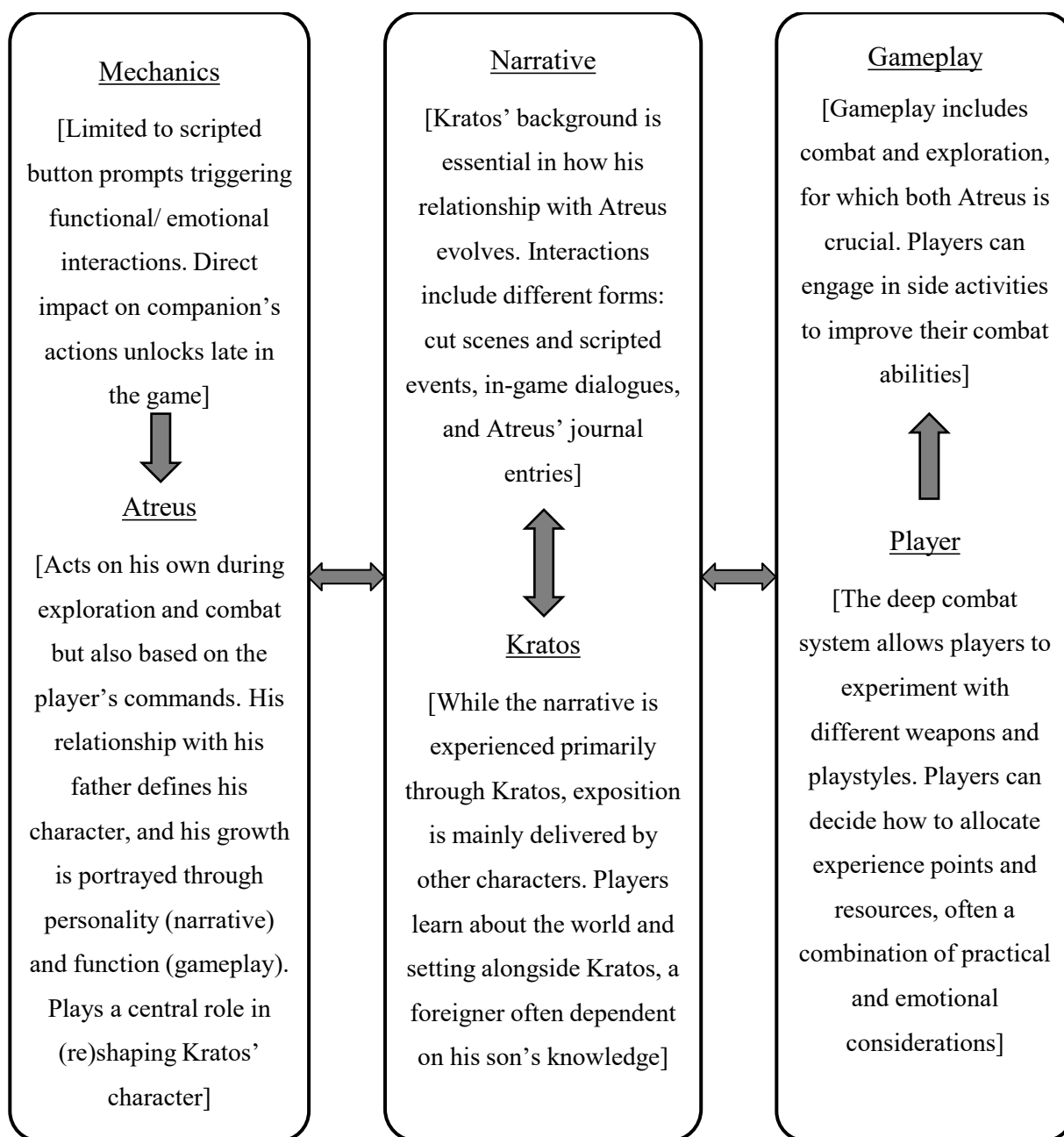


Chart 12: *God of War* interactions according to the LRI model. Each design aspect correlates to a component to generate rapport.

The brief analysis in this chapter did not consider many other design elements that impact rapport, nor did it dive into how the narrative frames the relationship between Kratos and Atreus moving forward. Instead, the purpose here is to demonstrate how a game designed to evoke a sense of companionship could integrate seemingly disjointed elements so effectively, using a well-established character and a believable companion to carry players through an exhilarating and emotional journey.

Conclusion

This study set to achieve multiple goals. It asked to understand what makes video games emotionally engaging, despite operating within rigid systems governed by strict rules. It discussed the decision-based feedback loop enabled by interactivity as one of the medium's most prominent (and challenging) aspects, demonstrating how crucial "play" is in experiencing video games' full emotional palette, despite, and perhaps under, the illusions players form within the magic circle. It presented how games, while technology-based, share properties with literature (narrative), manifested in the forms of other audio-visual media (aesthetics and presentation), and operate and interact with the player using attributes exclusive to the medium (mechanics and gameplay), and how these are implemented in various degrees to achieve different design goals. It also discussed how virtual agents become believable characters when operating within the same paradigms that dictate games' functionality (the process), with their form shaped by combining approaches (and within limitations) set by technology, arts, visual media, and storytelling. Characters obtain or fortify their believability by implementing corresponding elements within these frames.

Understanding how games function based on objectives and design limitations, alongside exploring characters' design considerations, was critical in discussing how companionship between players and NPCs is formed, developed, and maintained during dozens of hours of play. The variety of methods applied by game designers to build believable characters, establish functions, and enable processes powered by interactivity and framed in fiction, was discussed via the exploration of several case studies. Adjusting and repurposing the social psychology framework for understanding rapport enabled the formation of the LRI model as both a concept (for evaluation) and a method (for analysis) to discuss companionship in video games, an emotional interaction

between players and game companions, which is exclusive to the medium, yet is usually a side note in the broader discussion on social play.

As demonstrated through case studies analysis, the implementation of different components depends on design goals. Themes are central to the video games discussed in this study, and different games use different methods to deliver them. Some use exposition in forms more closely related to other storytelling media, while others build mechanics and rules to simulate their themes (or allow themes to be drawn from mechanics). Some games are designed based on a specific type of gameplay (adhering to a specific genre) and playstyle and choose a theme to complement it; undoubtedly, there are many others. One of this study's goals was to demonstrate the validity of each method in designing games centered on companionship while considering the holistic structure that forms a video game.

This gaming aspect alludes to the medium's vibrancy, requiring us to search for or develop adequate tools to evaluate it properly. While the field of Game Studies is not short of analysis tools and evaluation models, the LRI model's value is in its design to examine games centered around companionship, hence its limitation; the framework works better with some games than with others, while with some it is not applicable at all, as that is not its purpose (Barlev 2021: 19). For the field to evolve, however, we must acquire methods that reflect the richness of the medium and enable us to address different phenomena in game studies. Calleja and others share this sentiment, saying that "it makes little sense to refer to games as a whole as if there is a unified set of entities that we could make blanket statements about. Difference between various types of games can be so wide that any argument we try to make for one will variably not apply to others" (Calleja 2012, 00:50 – 01:06 in *ibid.*), adding elsewhere that "the differences between them (games) are so significant that any discussion that considers them as equivalent media objects is prone to make generalizations

that impede analytical rigor” (Calleja 2011b: 2 in *ibid.*: 20). Isbister is also in support of this approach, noting that “To have a rich and meaningful discussion about how games fit into our lives, how they work on us as human beings, we need to get beyond shadowboxing with a monolithic notion of “games,” and delve into the elements that make up the game experience in all its facets” (Isbister 2016: XV in *ibid.*).

Video games, like most media, can simultaneously be unified in their form and unique in their expression, highlighting themes via exclusive aspects and materializing through different methods. Designers of games analyzed in this study all asked to convey meanings through functions, whether it is storytelling, game mechanics, or the gameplay itself. They all engulfed their rules and structures in stories and aesthetics, but the core is always players’ meaningful and emotional interaction with companions, achieved primarily within and through play. Greg Kasavin, *Hades*’ creator, discussed this notion from the storytelling perspective, yet a similar notion was conveyed by designers presented in this study, each from their corresponding perspective. According to Kasavin:

the story in a video game exists in service of the player experience rather than for its own purposes. If all a creator wants to do is tell a story, there are more efficient ways to tell a story than through a video game . . . with a game, the interactivity is the essential part, and so a story should be concerned with what the player is doing, how the player is feeling, what the player is thinking about, and be mindful of that. I think the most powerful game stories take advantage of that awareness and subvert the player’s expectations more than just through the story, but through the entire experience (Kasavin in GameSpark 2021: 4:00 – 5:20)

The LRI model acknowledges video games' unique traits while providing an original framework to deconstruct them into components that generate unique interactions exclusive to the medium. It brings rapport and companionship between players and non-player companions to the forefront of games' academic discourse. This topic is often overlooked or addressed under more general terms that might void it of its powerful potential to evoke meanings and emotions. This is not entirely surprising for a few reasons. First, most games centered on companionship are usually not at the center of public discourse. While most people are probably familiar, even if vaguely, with titles such as *Call of Duty*, *Fortnite*, or *Grand Theft Auto*, not many are likely aware of more intimate experiences like *A Plague Tale* or *The Last Guardian*. Second, although the medium keeps pushing toward exploring more profound thematic, intellectual, and personal themes, its messaging has often been problematic. This is partially because the industry responsible for delivering these experiences can often be toxic, misogynistic, and discriminatory in its practices and policies as well as in some of its products. The academic discourse surrounding video games is, rightfully so, often shaped by and according to these perceptions and trends.

However, as displayed in this study, countless scholars and designers expand these somewhat limited perceptions. They aim to present, discuss, and shape a more wholesome view on a medium that, alongside being a profession or research topic, is also a favorite and meaningful pastime that deserves diverse representation. I hope this dissertation can provide a humble contribution to these efforts, embracing and promoting the currents of positive change within the gaming landscape. As the industry matures and evolves, so are the games created by talented women and men asking to improve it. The way we talk about games matters; more often than not, the conversation does not accurately reflect the time, effort, and mostly the meanings game creators pour into their works. All the case studies in this research are designed to emphasize intuitive,

emotional responses via player-companion relationships, but they are not identified by these qualities. The verbs we use to discuss video games often revolve around practical actions: run, jump, shoot or punch, but rarely emotional functions: comfort, reconcile, empathize, affect. These verbs are just as representative of video games and should be a part of the discourse.

Hence, wouldn't we better understand a game like *The Last Guardian* if we discuss it not as a puzzle-platformer game where we use a clever AI agent, a gameplay tool in the skin of a virtual pet to beat the game, but as a tale of compassionate, cross-species companionship through which we form equal friendship where both parties matter and acknowledged? Or *God of War* not only as an action-adventure game targeting explorers who enjoy hard fun, but as a game about parenthood, redemption, and reconciliation, designed to encourage players to evaluate real-life relationships and explore not only the game, but themselves through its process, characters, and themes? As I aimed to demonstrate in this dissertation, such readings can help us not only to better understand video games, but ourselves through the emotional experiences and interactions the medium affords players.

Endnotes

Working definitions:

¹ Definitions of player-character, NPC, companion, narrative, mechanics, and gameplay are a summary of these terms' descriptions in Barlev 2021: 6 – 9.

Introduction:

¹ Defined as “internal sensations that occur in relationship to pursuing a goal” (Lazzaro 2009: 6).

² Reflecting the diversity (and complexity) of Game Studies, Paul Martin presents a comprehensive mapping of the main areas of game research in 24,128 game research documents between 1966 and 2016. Key findings show that the main division in game research is between “Communications and Health on the one hand and Education, Humanities/Social Science and Computer Science on the other. Within this division, design serves as an important bridge between different communities” (Martin 2018), echoing Williams’ criticism presented earlier.

³ This tripartite model is essential to how I approach this study, as will be discussed later on.

⁴ Many are neatly organized and discussed in Gabriela Richard’s article (2014).

⁵ I refer here to games in virtual environments, or, more simply, video games. A much broader discussion on play and games in human culture is found in Johan Huizinga’s *Homo Ludens* (1950) and Roger Caillois’s *Man, Play, and Games* (1961), two classic texts that heavily influenced the modern field of Game Studies. Huizinga and Caillois discuss rule-based games as well as free-form play, with both describing games as being separated from everyday life, while taking place in assigned space and time. Huizinga focuses on *play* as a central component of all cultures (with a chapter dedicated to examining play in different languages). He suggests that games take place in a ‘magic circle,’ a concept I will revisit in Chapter One. Caillois is best known for his categorization of games (and play) into *agôn* (competition), *alea* (chance), *mimicry* (simulation or make-believe), and *ilinx* (vertigo) (in Juul 2005: 18 – 20), a taxonomy that is often referenced in modern Game Studies.

⁶ The theories listed here are probably the most well-known and often cited ones discussing the question of why people play video games, which are also presented in an accessible manner regardless of their respective fields and affiliation. Of course, there are countless other sources discussing this topic from particular perspectives that are beyond the scope of this study. A useful source for better understanding the

psychology of video games from this aspect can be found in Routledge's *Introduction to Cyberpsychology*, where the writers list psychological gratifications, altered states of consciousness (including 'presence,' 'immersion,' and 'flow') and learning and honing adaptive skills as leading motivations of play (Errity et al. 2016: 261 – 265).

⁷ See Chapter One.

⁸ A 2020 industry report shows that of the seven most played game types, five are online multiplayer-based (Limelight Networks 2020: 10 in Barlev 2021: 2).

⁹ Of 44 nominees for Game of the Year between 2014 and 2021, 37 games were single-player.

¹⁰ This topic is also addressed by De Kort et al. (2008) and Emmerich and Masuch (2016), discussed in Chapter Two.

¹¹ First introduced in Barlev 2021 as the 'Ludo-Rapport Model for Player-Companion Interaction.'

¹² From "ludus," the Latin word for play or game.

¹³ This argument is further expanded and applied in Payne and Huntemann (2019), exploring the various approaches researchers take to analyzing different video games.

¹⁴ See, for example, Chung et al. (2019) and Villarica and Richards (2014).

¹⁵ Henry Jenkins presents an interesting take on this transition, aiming to "shift the discussion from talking about serious games (as in a product) towards talking about serious gaming (as a process)" (Jenkins 2006).

¹⁶ From Italian: the feeling of pleasure or satisfaction at one's achievements.

Chapter One:

¹ This phrase conveys the notion that both ‘emotional’ and ‘meaningful’ complement each other when playing certain video games. Specifically, players can draw meanings from games that can evoke emotions (but not only), whether positive, such as joy and excitement, or negative, such as fear, guilt, or even frustration. In other words, an emotional experience can lead to a meaningful experience, while a game that leaves players numb will soon be forgotten and lose its meaning. This is not unique to games, as studies show that emotional experiences are more meaningful in life, with meaning positively associated with both positive and negative experiences (Baumeister et al. 2013). Throughout this study, these two terms will be used interchangeably to discuss the importance of emotions in games. The term meaningful play, however, is unique and embedded in game design, identified and discussed by Salen and Zimmerman (2014), and has clear properties that will be discussed in this chapter.

² For a detailed definition of emotions, functions, activation, and regulation, see Izard 2010.

³ Large sections of the discussion on emotions in video game design appeared in Barlev 2021: 2 – 5.

⁴ Among these are Anderson and Dill (2000), Fisher (1994), Kinder (1991), and Schutte et al. (1988).

⁵ Bushman et al. (2014), Coulson and Ferguson (2016), Griffiths (2016).

⁶ For recent comprehensive work on common issues related to video games and players, see *Video Game Influences on Aggression, Cognition, and Attention*. The series of essays challenges multiple assumptions associated with video games, including issues such as addiction, aggression, visual attention, sexism in games, and social interaction and isolation (Ferguson 2018).

⁷ Something that perhaps was never fully realized. See Colin Campbell’s Polygon cover story “How Electronic Arts Lost its Soul” (Barlev 2021: 20).

⁸ Consider Isbister’s ludography of 34 games: 16 from the 2010s, 14 from the 2000s, three from the 1990s, and only one game from the 1980s (Barlev 2021: 20).

⁹ Indie games dominate Isbister’s list of case studies (Barlev 2021: 20).

¹⁰ Examples are numerous and varied: from experimental indie titles such as *Train* (Romero 2009), where players solve a puzzle of how to get a train towards its destination, only to realize that the destination of the train is Auschwitz, to high-budget titles like *Far Cry 2* (Ubisoft Montreal 2008) and *Spec Ops: The Line* (Yager Development 2012), in essence, modernized adaptations of Joseph Conrad's *Heart of Darkness* (1899) that force players to question their own morality (Barlev 2021: 20). Chapter three will present additional examples of such games in more detail.

¹¹ Calleja describes involvement in games as “a prerequisite to the experience of higher-order cognitive processes such as presence or immersion” (Calleja 2011a: 35).

¹² See Weaver and Lewis 2012, Mahood and Hanus 2017, Hemenover and Bowman 2018, Changhyun et al. 2021.

¹³ This is not to say that video games are the first (or only) instance of interactive storytelling. In his seminal book *Character Development and Storytelling for Games*, Lee Sheldon discusses three common myths concerning games, the first being that “Interactive storytelling first appeared in computer games” (Sheldon 2004: 7). Sheldon refers mainly to live dramatic performances that “have always taken into account that extra character, the audience, and adjusted accordingly. If the audience is responding with enthusiastic laughter to a comedy, the actors will draw on that energy to enliven their performances. If the audience is bored and restless, the actors may try harder to infuse their words with intensity, or they may just speed up their dialogue to minimize the experience for both them and the audience” (ibid.). This valuable observation should be taken into account when discussing video games, without concerning it might impact their unique interactive digital form.

¹⁴ This can be illustrated by the amusing, classic example of Sonic the Hedgehog, who impatiently tap his foot after staying ideal, waiting for the player's input.

¹⁵ As argued by Grodal, to play a computer game, “users have to pay careful attention to the game, make mental maps of game environments, note objects and landmarks for future reference, and coordinate visual attention with motor behavior – all cognitively-taxing processes” (Grodal 2000: 202).

¹⁶ For example, studies show how immoral choices and acts players make in video games — ones that violate care and justice — are capable of eliciting feelings of guilt in players, with some concluding that as a result, players become more sensitive to other’s emotions in real life (Grizzard et al. 2014 in Schrier 2016: 55, Isbister 2016: 8).

¹⁷ These arguments refer, of course, to these media in their traditional form and not to variants such as choose-your-own-adventure books or experimental interactive TV shows, bringing them closer to games.

¹⁸ Fictional characters such as Vic Mackey (*The Shield*, Ryan et al. 2002 – 2008), Dexter Morgan (*Dexter*, Cerone et al. 2006 – 2013), or Walter White (*Breaking Bad*, Gilligan et al. 2008 - 2013) come to mind. This moral dilemma is embedded in the narrative, since in films and TV shows viewers get a vicarious satisfaction in seeing the protagonist succeeds. The degree of satisfaction, as Grodal argues, can also be linked to the degree to which “the protagonist matches values of concern for the viewer’s self-appreciation” (Grodal 2000: 207). A narrative frame that places such morally ambiguous characters as protagonists, can challenge the viewer’s perception and evoke a sense of guilt (this character is “bad” but I want him/her to succeed).

¹⁹ Gish discusses how the malleability of video game avatars serves as virtual projections specific to each player, an element that “may encourage the modification of their aesthetics, altering how they appear onscreen, and their functionality, altering how the player explores and interacts with the game world” (Gish 2019: 36 – 37), while Toh offers an extensive examination of the emotional appeal of weapon visualization, arguing that “The more weapon customization choices provided to the player, the more tailored the weapon can become both to the player and their gaming style, that corresponds to the player’s emotion of capacity” (Toh 2016: 105)

²⁰ See for example Isbister's discussion on morality and guilt in *Black & White* (Lionhead Studios 2001) (Isbister 2016: 8), a game that carries the tagline "find out who you really are," or Schrier's exploration of morality systems, empathy, and ethical thinking in *Fable III* (Lionhead Studios 2010) (Schrier 2016: 55).

²¹ See, for example, Rollings and Morris 2004: 61, Calleja 2011: 155, Isbister 2016: 2, Egenfeldt-Nielsen et al. 2016: 50 and Krapp 2019: 46, to quote a few.

²² See, for example, the highlighted features of recent video games across various genres:

"As Max and as Chloe, your choices will shape the past, present, and future of Arcadia Bay" (Dontnod Entertainment 2015, *Life is Strange* official website).

"*Detroit: Become Human* puts the destiny of both mankind and androids in your hands. Every choice you make affects the outcome of the game, with one of the most intricately branching narratives ever created" (Quantic Dream 2018, *Detroit: Become Human* official website).

"Forge this new world's destiny, as you befriend or betray companions and entire factions. With diplomacy, deception and force, become part of a living, evolving world - influence its course and shape your story" (Spiders 2019, *GreedFall* official website).

"You can customize your character's cyberware, skillset and playstyle, and explore a vast city where the choices you make shape the story and the world around you" (CD Projekt Red 2020, *Cyberpunk 2077* official website).

"Simply not turning into an infected is one thing. But continuously choosing to make hard decisions, facing their consequences, and holding onto your human heart can sometimes prove much more difficult than resisting the virus itself" (Techland 2022, *Dying Light 2 Stay Human* official website).

²³ For an in-depth review of the history of the concept and some of its criticism see Sternos' 'In Defense of a Magic Circle' (2012). A critical observation on the magic circle and its application in Game Studies can be found in Consalvo's 'There is No Magic Circle' (2009).

²⁴ Egenfeldt-Nielsen et al. present a few simple examples of times where games have real-world consequences, such as consuming time, affecting mood and behavior, or impacting the outside world via real money trade of virtual objects (2016: 34 – 35).

²⁵ Malaby's reading on the topic is a productive middle-ground in addressing the space where games take place, considering them as "semi-bounded arenas that are relatively separable from everyday life, and what is at stake in them can range from very little to the entirety of one's material, social, and cultural capital" (Malaby 2007: 96).

²⁶ These rules, of course, can be breached in the case of cheating (generally defined as gaining an unfair advantage over other players, see Consalvo 2007), or manipulated in the case of game mods, as will be discussed later.

²⁷ This statement will be further discussed and expanded upon in the following chapters to consider virtual characters.

²⁸ This can also include different forms of fandom, such as video game conventions, cosplay, merchandise etc., which are beyond the scope of this thesis.

²⁹ This topic will be further examined in Chapters Two and Three.

³⁰ A flow state, as identified by psychology researcher Mihaly Csikszentmihalyi, is a "learned condition of mastery over the performative challenges of a game or task" (Malaby 2007: 107), which in the case of video games, allow players to "enter a pleasurable, optimal performance state" (Isbister 2016: 4).

³¹ See Schwartz 2004.

³² Fidelity refers to the level of realism presented by the game engine or simulation.

³³ For a comprehensive review of the definition of "play," see chapter 22 in Salen and Zimmerman 2004.

³⁴ For example, Bowman and Tamborini (2012) and Rieger et al. (2014) found that playing games led to higher mood repair than did non-interactive engagement (watching) of the same game.

³⁵ The argument that “The experience of computer game play is unique among other media forms” (Bowman and Tamborini 2012: 1340) is backed up by numerous studies that highlight the level of participation required for engaging with video games and the emotional impact it has on players (ibid.).

³⁶ The remaining 13.1 percent of viewers tuned in to Twitch’s top category “Just Chatting” (TwitchTracker: Top games through history).

³⁷ See, for example, the Metacritic scores of the following single-player games: *The Last of Us* (Naughty Dog 2013) with a score of 95, *God of War* (Santa Monica Studio 2018) with 94, *Bioshock Infinite* (Irrational Games 2013), 94, and *Uncharted 4: A Thief’s End* (Naughty Dog 2016) with 93 (Metacritic 2019).

³⁸ Since *Escape from Tarkov* is still in the beta stage (at the time of writing), it has not yet been officially reviewed and scored.

³⁹ The average peak viewers of Twitch’s top ten games list presented earlier is 1,654,713 viewers (*Escape from Tarkov* being the lowest with 475,546 peak viewers, and *League of Legends* the highest with 3,082,609 peak viewers). In comparison, the critically acclaimed single-player games *The Last of Us*, *God of War*, *Bioshock Infinite*, and *Uncharted 4: A Thief’s End* has an average peak of 129,205 viewers (TwitchTracker.com).

⁴⁰ It is important to note that in this case, there was no interaction between the viewer and streamer, which is, as shown, a leading motivation for video game spectatorship.

Chapter Two:

¹ Unless otherwise specified, when discussing video game characters, I refer specifically to in-game virtual characters not controlled by the player. The term NPC (non-player character) is used for the same purpose. Virtual characters, in general, are “embodied autonomous agents that a user can interact with in some fashion, animated as real-time graphics or built as physical robots, which appear to have personality, emotion, and motivation, designed to be used in art or entertainment” (Stern 2002: 334 – 335). Depending on the discipline and context, such characters go by a few other terms, such as virtual or believable agents. In this chapter, I use these terms to describe a general sense of technology-based entities and, when relevant, can also refer to video game characters.

² The same observation is discussed in Clifford Nass’s book *The Man Who Lied to His Laptop*, among others.

³ Molyneux’s 2010 TED Talk, where he demos the technology, describes Milo as “Perceptive and impressionable like a real 11-year-old, the virtual boy watches, listens and learns – recognizing and responding to you” (Molyneux 2010).

⁴ For a fascinating, in-depth exposition of Project Milo from its promising inception in 2001 to cancellation in 2010, see Matt Leone’s story in *Polygon*: ‘How Milo met Kate: The story behind Lionhead’s virtual boy’ (Leone 2013).

⁵ The text-to-speech (similarly to the function found in word-processing software) in *Event [0]* uses AI synthetic voice generator, where the text is analyzed using a pronunciation dictionary and translated into phonemes sequences. While Kaizen’s robotic voice is not particularly intelligible (the spoken text is always displayed on screen), it effectively conveys the AI’s current mood (Bonneau 2014).

⁶ This practical approach can be traced back to the design of Floyd the Robot from the game *Planetfall* (Infocom 1983), “one of the earliest NPCs to evoke an emotional investment from players” (Meretzky 2008). Steve Meretzky, the game’s designer, commented that the decision to design the companion as a robot worked thematically in this science fiction, space adventure game. More importantly, however, Meretzky

knew that even with the concentration on a single NPC, “the character would still fall far short of simulating a human being, but that players would have lesser expectations for a non-human character such as a robot” (ibid.).

⁷ *Façade* has more than five million downloads and over 100 million YouTube views.

⁸ The concept of believability in the context of virtual characters was defined by Joseph Bates and his research group in the early 1990s. As will be discussed in length throughout this chapter, believable virtual agents are characters that can form an *illusion* of a living being and convince players they are interacting with an entity “whose existence is consistent and coherent in the context of the virtual world it is situated in” (Avradinis et al. 2013: 1).

⁹ Nicole Lazzaro draws a clear distinction between usability and playability, stating that user experience design is not the same as player experience design, while acknowledging the importance of both: “Without usability no one can play a game, make it too usable and it’s no fun” (Lazzaro 2008: 319).

¹⁰ Grace and Trip respond to “trigger words,” which prompt a pre-designed action or comment. The reaction to some of these words is straight out bizarre: for example, suggesting the couple will get a pet or typing the word “melon” in any context results in being kicked out of the apartment.

¹¹ See for example Agüera y Arcas 2022.

¹² An observation that is still relevant. See, for example, Emmerich and Masuch 2016.

¹³ The fact that ELIZA portrayed gendered features is not accidental. Costa and Ribas present a fascinating discussion on gender and AI, arguing that when chatbots are anthropomorphized, whether through their voice, name, or how they interact, they tend to portray gender-related features (Costa and Ribas 2018). The process of anthropomorphizing these agents, by assigning them human-like traits or features, they add, “seems to be accompanied by a tendency for them to display feminine attributes. These digital entities are often feminized through their name, voice or avatar, while they also execute tasks associated with jobs which are historically performed by women” (ibid.: 104). This is perhaps more relevant today than ever,

with the leading virtual assistants developed by the largest corporations in the world (Apple's Siri, Amazon's Alexa, and Microsoft's Cortana) all displaying feminine voices by default. While Siri is the only agent offering a masculine variant, limited to a particular set of languages, its name translates in Nordic to "beautiful woman who leads you to victory" (in *ibid.*: 109).

¹⁴ In his 1984 book, Weizenbaum wrote: "I know from long experience that the strong emotional ties many programmers have to their computers are often formed after only short exposures to their machines. What I had not realized is that extremely short exposures to a relatively simple computer program [ELIZA] could induce powerful delusional thinking in quite normal people. This insight led me to attach new importance to questions of the relationship between the individual and the computer" (Weizenbaum 1984: 7, in Richardson 2015: 84).

¹⁵ Turkle explains that people learned to "talk to technology" in fairly intimate ways and that "it takes a very small amount of interactivity to project our own complexity onto the undeserving object" (Turkle 1995: 101). An example can be found in Yokotani et al, who discuss the advantages of virtual agents over clinical psychologists in some instances, such as alcohol abuse, mood symptoms, and sex-related fields (perhaps reaffirming Weizenbaum's concerns), displaying cases where people experience more rapport with a virtual agent (which is actually controlled by a human operator without their knowledge) than when talking to an actual person (Yokotani et al. 2018).

¹⁶ All except ELIZA postdate Bates comments.

¹⁷ In fact, Disney animators Thomas and Johnston argue that "The more an animator goes toward caricaturing the animal, the more he seems to be capturing the essence of that animal" (Thomas and Johnston 1981: 332), adding that "the more realistically animals are drawn, the less real they will appear on the screen" (*ibid.*).

Chapter Three:

¹ Parts of the discussion on the illusion of life appeared in Barlev 2021: 4 - 5.

² According to Barnes and Hutchens, who worked on the game, “People more readily accept behavior as sufficiently intelligent when it is performed by something graphically represented as a baby cow rather than something that looks like a human being” (Barnes and Hutchens 2002: 620).

³ The game applied reinforcement learning rooted in behavioral psychology. See Barnes and Hutchens 2002: 622.

⁴ See Aoyama and Izushi 2004, 2006.

⁵ Alongside other AI research projects, most notably MIT’s Media Labs and Stanford’s Virtual Theatre, each directly or indirectly contributed to the field of entertainment and game software (Next Generation 1997: 59).

⁶ Mateas presents a simple yet informative distinction between the position of classical AI and behavioral AI when operating an agent. Relevant to the case studies this research examines is the understanding that behavioral AI seeks to build complete agents in the form of characters (rather than minds or pieces of minds as in the case of classical AI) that can operate in complex (in our case virtual) environments (Mateas 1999: 300 – 302). Unlike classical AI, which divorces mental capabilities from a body, behavioral AI, in accordance with operating within a realized environment, “assumes that having a body which is embedded in a concrete situation is essential for intelligence” (ibid.: 301).

⁷ This example was previously presented in Barlev 2021: 21.

⁸ We can see a clear correlation between these properties and Wooldridge and Jennings’ weak and strong notions of an agent presented earlier.

⁹ See, for example, Coulson et al. (2012), Chowanda et al. (2016), Bogdanovych et al. (2016), Niewiadomski et al. (2010), El-Nasr et al. (2009), Isbister (2016), Lebowitz and Klug (2011), Livingstone (2006), Nilsson (2010) and Tence et al. (2010).

¹⁰ Rauch described his experience with the game, saying, “*Façade* is ingenious, but it is not fun. It isn’t really meant to be... authoring fun is hard, and it is not obvious that interactive drama is a natural route to funness” (Rauch 2006). Umarov et al., who discuss the role NPCs take in making a game an enjoyable experience, present a quote by video games AI programmer Paul Tozour saying, “The whole point is to entertain the audience, so no matter what you do, you need to make sure the AI makes the game more fun. If a game’s AI doesn’t make the game a better experience, any notions of ‘intelligence’ are irrelevant” (PC Gamer, Eyewitness 2002 in Umarov et al. 2012: 40).

Personally, I find this debate quite amusing, considering how games were traditionally perceived in mainstream circles as a fun hobby or pastime but not much else. Here we are at a point where games can create such compelling and impactful experiences that we must defend their ability to entertain. This dichotomy is obviously shortsighted, as video games should not be (and are not) limited to an either/or approach, and can be both *fun* and *meaningful*, much like any traditional storytelling art.

¹¹ An interesting anecdote displays a reversed process, where a video game character becomes so successful and believable as a companion that its “persona” is translated and repurposed as a virtual personal assistant. Since 2001 the game *Halo* (Bungie 2001) has been Microsoft’s Xbox flagship franchise, spawning multiple sequels and adapted across various media. The player-character, Master Chief, is accompanied by an AI entity named Cortana, assisting and guiding players throughout their adventures across the universe. In 2014, in response to Google’s and Apple’s popular virtual assistants, Microsoft issued its own assistance, Cortana, named after her fictional counterpart in *Halo*. As Tom Warren from *The Verge* explains, “The Cortana naming and background is linked directly to *Halo*, and meshes well with Microsoft’s main goal for the product: recreate a real personal assistant without being too creepy. Cortana was always there for Master Chief in the *Halo* games, and now she’s always there for you on your phone” (Warren 2014). Microsoft went as far as voicing Cortana with the same voice actress who plays her in *Halo*, and even embedded in the virtual assistant some of the character’s personality (Molen 2014). Microsoft worked closely with *Halo*’s

current developer, 343 Industries, to bring Cortana more in line with her *Halo* character, including her backstory and past (or rather future, where *Halo* takes place) experiences, which she in fact addresses as witty responses to some questions. Cortana responds playfully when asked if she's better than Siri, acknowledging her video game past: "Not to brag, but apparently I'll help save the universe in about 500 years" (ibid.: 2014).

¹² Another game deserving of an honorable mention is *Little Computer People* (Activision 1985), a social simulation game where players had to care for the randomly generated inhabitant of a suburban home. The character, as explained by Stuart, "had a limited range of emotions and behaviors, and player interaction ranged from feeding the character, to offering gifts and entering simple commands" (Stuart 2016a).

¹³ Also, virtual pets grew old or evolved, or if neglected, could even "die" or run away. In the transition from virtual pets to virtual humans, as seen in *Babyz*, these elements were neglected. *Babyz* characters never progress beyond their baby form, do not have the notion of fear, and cannot be harmed.

¹⁴ The collaboration between the two is fascinating due to their different approach and background. For Mateas, as part of the OZ research group, believable agents were often designed to be part of a specific story world. He argued that interactions with the character "are intended to be intense, but bounded in duration and context by the story world" (Mateas 1999: 307). Mateas acknowledges the appeal of repeated, long-term interaction with characters, such as in the case of virtual pets, but admits it becomes "more difficult to pull off as the character becomes more sophisticated" (ibid.), explaining perhaps the short acts implemented in *Façade*.

¹⁵ As well as the fact that virtual pets display many "gamy" features. Managing the pet's state (satisfaction, mood, hunger, etc.) is communicated by bars players aim to keep at a certain positive level, achieved by the mechanics available for interacting with it. These programs/games also feature a failure/losing state: since these creatures can "die" or run away if their needs are not fulfilled, it can be argued that the game's goal is to keep them alive and content, resulting in a "game over" otherwise.

¹⁶ While *Final Fantasy VII* was by no means the first time death of a beloved character was portrayed in a game, its caliber and cultural status set it apart from its predecessors.

¹⁷ Chapter One presented a discussion on play versus watch, and while watching a cut scene triggered by a player rather than by a streamer is by no means the same, the impact of play was certainly more effective.

¹⁸ At this point, it might seem as if I pick on this low-budget, experimental title a bit too often, using it as a scapegoat to demonstrate the value of interactivity above all else. This is not the case. *Façade* was indeed ingenious at the time, a critical case study that helps us frame the complexity of not only game development but also of the human condition that designers try to represent/simulate in the form of video games, a condition we have limited understanding of to begin with. AI researcher and game developer Luke Dicken made this point clear when he discussed the difficulty of creating believable characters that aim to present an emotional depth such as Grace and Trip: “From the code or computer science point of view, it’s a horsepower problem now and that’s just going to get solved over time either by streamlining techniques or extra muscle in PCs, so we’re close-ish in some ways. On the other hand, from a behavioral science point of view, we don’t understand words like ‘intelligent’, ‘characterful’ or ‘deep personality’ and what that truly means in a deep connectionist kind of way – we know it when we see it, but that’s not necessarily enough to reliably construct something, and when we miss, we miss by a long way” (in Stuart 2014).

¹⁹ This study examines narrative-driven games with established player-characters precisely for that reason. As will be explored further in Chapter Five, games are not necessarily about playing ourselves (as in most games where we act as caregivers), but about experiencing worlds and relationships through the eyes of others. The ability to embody different identities, abilities, and even values enables experiences beyond our own existence. Having to interact with NPCs through established player-characters within their own realized worlds, choosing from limited options of dialogue trees and mostly scripted set of actions, force but also allow us to *play* as them, and shape the interaction with other characters in conjunction with both their fantastic abilities and limitations.

²⁰ Ueda's unique design philosophy will be explored in length in Chapter Six.

²¹ Not surprisingly, Team ICO's next game *Shadow of the Colossus*, released in 2005, was among the few games in that decade to display relationships in such depth.

²² This transition discussed in Chapter One was a natural evolution of a relatively young medium. The landscape of video games began to change as both developers and audiences matured and diversified, leading to both interest in and demand for games that tackle complex and meaningful themes. While Japan and the US have traditionally initiated and led industry trends, this was a global shift involving developers from different regions.

²³ The game opens with Caballero's dedication: "To my mother, brothers and sister, with whom I survived the monster in my father."

²⁴ Soon after meeting Elizabeth, a message appears, informing the player: "You don't need to protect Elizabeth in combat. She can take care of herself."

²⁵ See, for example, Potter (2022), Elauria (2022), and Carroll (2020), to list a few.

²⁶ Levine joked that design for such a game is like "writing a scene where the lead actor is a psychopathic alcoholic" (in Sarkar 2013).

Chapter Four

¹ Several sections of this chapter were first introduced and discussed in Barlev 2021.

² Isbister considers these as passive and linear, a general observation this author does not share.

³ These qualities are highly subjective and can range from warmth to dominance, depending on the interactants. The emphasis then is on the interaction and its expression, and not necessarily specific characteristics, which can be seen in how people say they “click” with each other or refer to “chemistry” as the reason for positive interaction. Tickle-Degnen and Rosenthal highlight this by stating that “the interaction itself during the experience of rapport becomes an entity not easily divisible into characteristics that each party brings to the interaction” (Tickle-Degnen and Rosenthal 1990: 286 in Barlev 2021: 21 - 22).

⁴ Such tools can vary greatly between games. In *The Last Guardian*, the interaction is manifested through physical contact between the boy (player-character) and Trico (companion), and the creature’s reaction to touch conveys its emotional state. In *A Plague Tale: Innocence*, interaction is expressed mainly via cut scenes and conversation between Amicia (player-character) and her brother Hugo (companion) during gameplay, while *God of War* makes use of upgradable skills and cooperative combat and exploration to convey the relationship between Kratos (player-character) and his son Atreus (companion) (Barlev 2021: 22).

⁵ Gordon Calleja, for example, proposes a different conceptualization from classical notions of narrative to discuss games, suggesting a taxonomy of kinaesthetic narrative involvement, spatial narrative involvement, shared narrative involvement, and so forth (Calleja 2011 in Barlev 2021: 21).

⁶ There are some exceptions, as in the case of Hugo from *A Plague Tale: Innocence*. Although Hugo is the main companion throughout the game, players control him for limited sections in support of specific narrative sequences.

⁷ Some of the leading discussions on the topic include Hunicke, LeBlanc, and Zubek’s MDA model (2004), Fabricatore’s design of gameplay and mechanics (2007), Sicart’s analysis of game mechanics (2008),

Adams and Dorman's advanced game design guidebook (2018), and Hofmann's review of current theories on the topic (2018) (Barlev 2021: 21).

Chapter five

¹ A term coined by game scholar Ian Bogost, suggesting that video games open a new domain of persuasion based on their core representational mode of procedurality. Procedural rhetoric, according to Bogost, is “the art of persuasion through rule-based representations and interactions rather than the spoken word, writing, images, or moving pictures” (Bogost 2007: IX).

² There are, of course, several notable exceptions. Japanese creators, for example, often emphasized the importance of stories in games, experimenting with novel ways of integrating narrative and interactivity. While quality was inconsistent and narrative was convoluted at times, games created by innovative designers such as Hironobu Sakaguchi, Hideo Kojima, and Yu Suzuki, among others, presented storytelling depth and complexity rarely matched by Western games.

³ Delvin, for example, offers a different reading, arguing that Amicia’s wishes to make her own path stand in contrast with her “gendered gameplay mechanics throughout the remainder of the game” (Devlin 2019), namely her stealth-based gameplay, a sentiment this author does not share.

⁴ Most reviews agree that a game made by a relatively unknown team of 45 people “should not look this good,” a testament to the game’s extraordinary art design.

Chapter Six

¹ Parts of the discussion on Ueda's design philosophy were previously presented at a conference. See deWinter et al. 2019.

² Uncharacteristically for Ueda's design, *The Last Guardian* has intrusive prompts instructing players how to execute different functions with the controller. These frequently appear without an option to toggle them off, which has been one of the most common criticisms of the game.

³ This technique was also used in *BioShock Infinite*, with Elizabeth often drawing players' attention to points of interest. While it was used primarily to find useful items, players could ignore these if, for example, they had enough resources. However, in *The Last Guardian*, this mechanic is crucial for progression since players can easily get "stuck" in certain areas if they do not carefully observe the environment.

⁴ Yorda's speech is accompanied by nondescriptive subtitles in the first playthrough.

⁵ Interestingly, when asked about his "subtraction method" concerning *ICO*, Ueda replied that "maybe in *ICO*, I think we subtracted too much!" (IUP 2003) yet while his next game added few elements commonly found in traditional design (such as health and stamina bars) and presented an open world structure, Ueda's design philosophy regarding storytelling and use of mechanics as a tool for exposition remained primarily unchanged. In *The Last Guardian*, Ueda returned to the minimalist approach seen in *ICO* and removed all on-screen indicators.

⁶ Ueda does not use motion capture in his games; instead, the team implements procedural animation, allowing characters to naturally interact with environments and objects in real time. See Cooper 2018

⁷ In fact, the game has a "contemplate" mechanic: by holding down a button, the boy will sit still and close his eyes. After a while, the narrator will offer players where they might find the exit to the next area. These messages, however, are often vague and do not provide detailed instructions.

⁸ The AI sets interest levels, which, when "consumed," Trico will search for another activity

⁹ The treatment of horses in recent games like *The Legend of Zelda: Breath of the Wild* (Nintendo 2017) and *Red Dead Redemption 2* (Rockstar Games 2018) come to mind.

Chapter Seven

¹ *Hades* might be more accurately described as a rogue-lite, used to describe games that take influence from roguelikes without strictly adhering to the original format (Supergiant Games official website 2021).

² Theoretically, it is possible to beat *Hades* on the first run, but it is highly improbable and is possible if (exceptional) players are already familiar with the game. Supergiant considers this and has unique dialogue for players who take on this herculean challenge.

³ As discussed in the previous chapter, *ICO* uses the failure state mechanic to strengthen the bond between players and Yorda, but it does not impact the game's fiction.

⁴ There is however, a "Give Up" option, sending Zagreus back to the House of Hades if players feel they have no chance to complete or progress in a run.

⁵ This is also reflected in the game's length. While completion times differ greatly based on skills, according to players' reports, it takes an average of twenty-two hours to complete the main storyline but nearly one hundred hours to complete all plotlines (How long to Beat website). Even then, the game can be played indefinitely.

⁶ *Hades* has thirty fully voiced characters in a script of 305,433 total word count.

⁷ *Hades'* exploration and depiction of ancient Greek masculinity is discussed in Autumn Wright's fascinating article for *Wired* (2021).

⁸ Whether Dionysus and Demeter are Olympians or lesser gods of earth is debatable and varies depending on the source. For clarity and consistency, however, when using the term Olympians, I refer to all nine gods acting as companions in *Hades*. This does not include Hades himself, despite being one of the twelve great Olympians.

⁹ Also discussed in Barlev 2021: 7.

¹⁰ "Best Video Game" was added as a special category in 2021, acknowledging creative storytelling in games. It is unclear at this point if the category will become permanent.

Chapter Eight

¹ Parts of this chapter were first published in Barlev 2021, and are presented here with minor revisions and updates.

² Although set in Greek mythology, *Hades* tells an original story not previously explored. While taking place in a shared universe like other Ueda's games, *The Last Guardian* never explicitly acknowledges any similarities and its characters are introduced for the first time.

³ By setting “father and son” as one of the core concepts, Barlog and his team highlighted that the entire game story is about the relationship between these two characters (Barlev 2021: 22).

References

1UP (2003) 'The Method of Developing ICO.' Available from:

<https://web.archive.org/web/20110628230605/http://www.1up.com/features/method-developing-ico>

1UP (2007) '*Shadow of the Colossus* Postmortem Interview.' Available from:

<https://web.archive.org/web/20160525005456/http://www.1up.com/features/shadow-colossus-postmortem-interview>

Aarseth, E. (2003) 'Playing Research: Methodological approaches to game analysis.' Game Approaches/Spil-veje. Papers from spilforskning.dk Conference.

Aarseth, E. (2007) 'I Fought the Law: Transgressive Play and The Implied Player.' Proceedings of the 2007 DiGRA International Conference: Situated Play, 130–133.

Abercrombie, J. (2014) 'Building the AI For BioShock Infinite's Elizabeth.' Available from:

https://www.youtube.com/watch?v=wusK-mciCVc&ab_channel=GDC

ACMI (2011) 'Fumito Ueda Interview.' Available from:

https://www.youtube.com/watch?v=SIiczllhAUA&ab_channel=ACMICollection

Adams, E. and Dormans, J. (2012) *Game Mechanics. Advanced Game Design*. Berkeley: New Riders Games.

Agüera y Arcas, B. (2022) 'Artificial neural networks are making strides towards consciousness.'

Available from: <https://www.economist.com/by-invitation/2022/06/09/artificial-neural-networks-are-making-strides-towards-consciousness-according-to-blaise-aguera-y-arcas>

- Allbeck, J.M. and Badler, N.I. (2001) 'Consistent communication with control.' In C. Pelachaud and I. Poggi (Eds.), *Workshop on Multimodal Communication and Context in Embodied Agents*, Fifth International Conference on Autonomous Agents.
- Altman, I. (1990) 'Conceptualizing Rapport.' *Psychological Inquiry*. 1(4): 294–323.
- Anderson, C.A. and Dill, K.E. (2000) 'Video Games and Aggressive Thoughts, Feelings, and Behavior in the Laboratory and in Life.' *Journal of Personality and Social Psychology*, Vol. 78(4): 772 - 790.
- Anderson, T.S. (2015) 'Goal Reasoning and Narrative Cognition.' 2015 Annual Conference on Advances in Cognitive Systems: Workshop on Goal Reasoning. Available from: <http://goalreasoning.mit.edu/accepted-papers>.
- Anthropy, A. and Clark, N. (2014) *A Game Design Vocabulary: Exploring the Foundational Principles Behind Good Game Design*. Indiana: Addison-Wesley Professional.
- Anton, C. (2014) 'Façade review.' Available from: <https://games.softpedia.com/get/Freeware-Games/Facade.shtml>
- Aoyama, Y. and Izushi, H. (2006) 'Industry Evolution and Cross-Sectoral Skill Transfers: A Comparative Analysis of the Video Game Industry in Japan, the United States, and the United Kingdom.' *Environment and Planning*, Vol. 38: 1843–1861.
- Aoyama, Y. and Izushi, H. (2004) 'Creative resources of the Japanese video game industry.' In D. Powers, & A. J. Scott (Eds.), *Cultural Industries and the Production of Culture*, 110 – 129. London: Routledge.
- APA Dictionary of Psychology: 'action tendency.' Available from: <https://dictionary.apa.org/action-tendencies>
- APA Dictionary of Psychology: 'affect.' Available from: <https://dictionary.apa.org/affect>.

- APA Dictionary of Psychology: ‘cognition.’ Available from: <https://dictionary.apa.org/cognition>.
- APA Dictionary of Psychology: ‘kinesthesia.’ Available from:
<https://dictionary.apa.org/kinesthesia>.
- APA Dictionary of Psychology: ‘rapport.’ Available from: <https://dictionary.apa.org/rapport>
- Arjoranta, J. (2017) ‘Narrative Tools for Games: Focalization, Granularity, and the Mode of Narration in Games.’ *Games and Culture*, Vol. 12(7–8): 696–717.
- Asobo Studio official website: *A Plague Tale: Innocence*. Available from:
<https://www.asobostudio.com/games/plague-tale-innocence>
- Avradinis, N., Panayiotopoulos, T. and Anastassakis, G. (2013) ‘Behavior believability in virtual worlds: agents acting when they need to.’ *SpringerPlus*, Vol. 2/246: 1 – 11.
- Baines, T. (2018) ‘Remembering the only choice that mattered in Telltale’s The Walking Dead.’ Available from: <https://www.polygon.com/2018/9/20/17881800/walking-dead-telltale-clementine>
- Barlev, N. (2021) ‘Don’t Leave Me Alone Here: Introducing the ‘Ludo-Rapport Model for Player-Companion Interaction’ in Video Games.’ *Transcommunication*, Vol. 8(1): 1 – 25.
- Barlog, C. (2019a) ‘Directing God of War with Cory Barlog.’ Noclip talk. Available from: https://www.youtube.com/watch?v=FQQh8L1Rf7g&vl=ko&ab_channel=Noclip.
- Barlog, C. (2019b) ‘Reinventing God of War.’ 2019 GDC session. Available from: https://www.youtube.com/watch?v=aIb-Lt7WX_s&ab_channel=GDC21:00.
- Barnes, J. and Hutchens, J. (2002) ‘Testing Undefined Behavior as a Result of Learning.’ In S. Rabin (Ed.), *AI Game Programming Wisdom (Game Development Series)*, 615 – 628. Hingham: Charles River Media.

- Bartle, R (1996) 'Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs.' *Journal of MUD Research*, Vol. 1(1). Available from: <http://mud.co.uk/richard/hcds.htm>
- Bartle, R. (2005) 'Virtual worlds: Why people play.' *Massively Multiplayer Game Development*, Vol. 2: 3-18.
- Batchelor, J. (2017) 'Fumito Ueda: "For me, it's not important to tell the details of the story".' Available from: <https://www.gamesindustry.biz/fumito-ueda-for-me-its-not-important-to-tell-the-details-of-the-story>
- Batchelor, J. (2019) 'Miyazaki vs Ueda: The path to compelling fantasy.' Available from: <https://www.gamesindustry.biz/miyazaki-vs-ueda>
- Bates, J, Bryan Loyall, A and Scott Reilly, W, (1992) 'Integrating reactivity, goals, and emotion in a broad agent.' *Proceedings of the Fourteenth Annual Conference of the Cognitive Science Society*. 1 – 16.
- Bates, J. (1993) 'The Nature of Characters in Interactive Worlds and The Oz Project.' In Loeffler, Carl Eugene (Ed.) *Virtual Realities: Anthology of Industry and Culture*. 1 – 9.
- Bates, J. (1994) 'The Role of Emotions in Believable Agents.' *Communications of the ACM*, Vol. 37(7): 122 – 125.
- Baudelaire, C. (1853) 'Morale du Joujou.' in C. Pichois (Ed.), *Oeuvres completes* (1975). Translated by: G. Kenneth. Paris: Gallimard.
- Baudrillard, J. (2001 [1999]) *Impossible Exchange*. Translation by Chris Turner. London: Verso.
- Bauer, R. (2018) 'Games as a Special Zone: Motivation Mechanics of Games.' In B. Suter, M. Kocher, and R. Bauer (Eds.), *Games and Rules: Game Mechanics for the "Magic Circle,"* 35-46. *Media Studies*, Vol. 53. Transcript Verlag, Bielefeld.

- Baumeister, R.F., Vohs, K.D., Aaker, J.L. and Garbinsky, E.N. (2013) ‘Some key differences between a happy life and a meaningful life.’ *The Journal of Positive Psychology*, Vol 8(6): 505 – 516.
- Bizzocchi, J. and Tanenbaum, J. (2011) ‘Well read: Applying close-reading techniques to gameplay experiences.’ In D. Davidson et. al (Eds.), *Well Played 3.0: Video games, value and meaning*. Pittsburgh: ETC Press.
- Bjork, S. and Holopainen, J. (2005) *Patterns in Game Design*. Hingham: Charles River Media.
- Blake, W. (1789) *The Little Boy Lost*. Available from:
<https://www.poetryfoundation.org/poems/52703/the-little-boy-lost>
- Bogdanovych, A., Trescak, T. and Simoff, S. (2016) “What makes virtual agents believable?” *Connection Science*, Vol. 28(1): 83-108.
- Bogost, I. (2007) *Persuasive Games: The Expressive Power of Videogames*. Cambridge: MIT Press.
- Bonneau, M. (2014) ‘Event[0] - Voice synthesis sample.’ Available from:
<https://soundcloud.com/matthieubonneau/event-0-voice-synthesis-sample>
- Boudreau, K. (2012) ‘Between Play and Design: The Emergence of Hybrid-Identity in Single-Player Video Games.’ PhD dissertation, Université de Montréal, Canada.
- Bowman, N. D. and Tamborini, R. (2012) ‘Task demand and mood repair: The intervention potential of computer games.’ *New Media and Society*, Vol 14: 1339–1357.
- Brown, J. (2016) ‘Level Design Workshop: The Illusion of Choice.’ Available from:
https://www.youtube.com/watch?v=xCOPu1sauoQ&ab_channel=GDC
- Brown, M. (2016) ‘Game Maker's Toolkit: How *Event[0]* Works.’ Available from:
https://www.youtube.com/watch?v=bCJw4hQkPj4&ab_channel=GameMaker%27sToolkit

- Bura, S. (2008) 'Emotion Engineering: A Scientific Approach for Understanding Game Appeal.'
- Available from:
- https://www.gamasutra.com/view/feature/132135/emotion_engineering_a_scientific_.php.
- Bushman, B. J., Gollwitzer, M. and Cruz, C. (2014). 'There is broad consensus: Media researchers agree that violent media increase aggression in children, and pediatricians and parents concur.' *Psychology of Popular Media Culture*, Vol. 4(3): 200–214.
- Caillois, R. (1961) *Man, Play, and Games*. New York: Schocken Books.
- Calleja, G. (2011a) 'Emotional involvement in digital games.' *International Journal of Arts and Technology*, Vol. 4(1): 19 - 32.
- Calleja, G. (2011b) *In-Game: From Immersion to Incorporation*. Cambridge: MIT Press.
- Calleja, G. (2012) 'PCG2012 - Gordon Calleja - In-Game: From Immersion to Incorporation.'
- Keynote lecture at the Philosophy or Computer Games Conference, Madrid 2012. Available from: <https://youtu.be/gS95e-L26SI>
- Cambridge Dictionary: Campaign. Available from:
- <https://dictionary.cambridge.org/dictionary/english/campaign>
- Cambridge Dictionary: Companionship. Available from:
- <https://dictionary.cambridge.org/dictionary/english/companionship>
- Campbell, C. (2015) 'How Electronic Arts Lost Its Soul.' Available from:
- <https://www.polygon.com/a/how-ea-lost-its-soul>.
- Campbell, J. (1949) *The Hero with the Thousand Faces* [third edition]. New Jersey: Princeton University Press.

- Carroll, A. (2020) “‘You Got a Friend in Me...’ The 7 Best Video Game Companions.’ Available from: <https://headstuff.org/entertainment/gaming/7-best-video-game-companions/>
- Chalk, A. (2019) ‘*A Plague Tale: Innocence* video game tells a tale of orphans in the time of the Black Death.’ Available from: <https://www.pcgamer.com/a-plague-tale-innocence-video-tells-a-tale-of-orphans-in-the-time-of-the-black-plague/>
- Changhyun, A. Grizzar, M. and Lee, S. (2021) ‘How Do Video Games Elicit Guilt in Players? Linking Character Morality to Guilt Through a Mediation Analysis.’ *Frontiers in Psychology*, Vol. 12: 1 - 6.
- Choteau, K. and Renard, S. (2019) ‘GDC Plays *A Plague Tale: Innocence* with Asobo Studio.’ Available from: <https://www.twitch.tv/videos/425234134>
- Chowanda, A., Flintham, M., Blanchfield, P. and Valstar, M. (2016) ‘Playing with Social and Emotional Game Companions.’ In P. Khooshabeh, S. Kopp, A. Leuski, S. Scherer, W. Swartout and D. Traum (Eds.), *Intelligent Virtual Agents*, 16th International Conference, IVA 2016, 85 - 95. Cham: Springer.
- Chung, K., Hoon Oh, Y. and Young Ju. D. (2019) ‘Elderly Users’ Interaction with Conversational Agent.’ *Proceedings of the 7th International Conference on Human-Agent Interaction* (HAI ’19). Association for Computing Machinery, 277–279.
- Clarke, S. (2013) ‘2012: A Miserable Year for Gamers.’ Available from: <https://www.ign.com/articles/2013/01/20/2012-a-miserable-year-for-gamers>
- Cocker, G. (2011) ‘Journey Co-Op Impressions.’ Available from: <https://www.gamespot.com/articles/journey-co-op-impressions/1100-6297312/>
- Cole, T. (2015) ‘The Tragedy of Betrayal: How the design of *Ico* and *Shadow of the Colossus* elicits emotion.’ DiGRA ‘15 - Proceedings of the 2015 DiGRA International Conference,

- Vol. 12. Available from: <http://www.digra.org/digital-library/publications/the-tragedy-of-betrayal-how-the-design-of-ico-and-shadow-of-the-colossus-elicits-emotion/>
- Conrad, J. (1899) *Heart of Darkness* (2007). California: Coyote Canyon Press.
- Consalvo, M. (2007) *Cheating: Gaining Advantage in Videogames*. Cambridge: MIT Press.
- Consalvo, M. (2009) 'There is No Magic Circle.' *Games and Culture*, Vol. 4(4): 408 – 417.
- Consalvo, M. and Begy, J. (2015) *Players and Their Pets: Gaming Communities from Beta to Sunset*. Minneapolis: University of Minnesota Press.
- Conway, S. (2019) 'FIFA: Magic Circle.' In M.T. Payne and N.B. Huntemann (Eds.), *How to Play Video Games*, 13 - 20. New York: New York University Press.
- Cooper, J. (2018) 'The Last Guardian: Procedural Animation.' Available from: <https://www.gameanim.com/2018/01/24/last-guardian-procedural-animation/>
- Costa, P. and Ribas, L. (2018) 'Conversations with ELIZA: on Gender and Artificial Intelligence.' *6th Conference on Computation, Communication, Aesthetics & X*. 103 – 116.
- Coulson, M. and Ferguson, C.J. (2016) 'The Influence of Digital Games on Aggression.' In R. Kowert and T. Quandt (Eds.), *The Video Game Debate: Unravelling the Physical, Social, and Psychological Effects of Digital Games*, 54 – 73. New York: Routledge.
- Coulson, M., Barnett, J., Ferguson, C.J. and Gould, R.L. (2012) 'Real Feelings for Virtual People: Emotional Attachments and Interpersonal Attraction in Video Games.' *Psychology of Popular Media Culture*, Vol. 3(1): 176–184.
- Csikszentmihalyi, M. (1990) *Flow: The Psychology of Optimal Experience*. New York: Harper & Row.
- Cyberpunk 2077 official website. Available from: <https://www.cyberpunk.net/jp/en/>

- De Kort, Y.A.W., and Ijsselsteijn, W. A. (2008) 'People, places, and play: a research framework for digital game experience in a socio-spatial context.' *Computers in Entertainment*, Vol. 6(2): 1 - 11.
- Dedeine, D. (2018) '*A Plague Tale: Innocence* - How Many Rats Can Your Rig Render?' Available from: https://www.youtube.com/watch?v=B-uddQocTg4&ab_channel=NVIDIAGeForce
- Deen, M. (2015) *G.A.M.E. Games Autonomy Motivation & Education*. Eindhoven: Eindhoven University of Technology.
- Detroit: Become Human* official website. Available from: <https://www.quantifieddream.com/en/detroit-become-human>
- Devlin, C. (2019) "'Is that your only ambition for me? To follow?'" Gender in *A Plague Tale: Innocence*.' Available from: <http://www.firstpersonscholar.com/is-that-your-only-ambition-for-me-to-follow/>
- deWinter, J, Kocurek, C, Hartzheim, B. and Barlev, N. (2019) 'Where is a Japanese Design Aesthetics in Transmedia Markets?' Conference: Replaying Japan 2019: The 7th International Japan Game Studies Conference.
- deWinter, J. (2019) 'Miyamoto/Kojima: Authorship.' In M.T. Payne and N.B. Huntemann (Eds.), *How to Play Video Games*, 177 - 184. New York: New York University Press.
- Deyo, N. (2020) '*Hades* is about erotic punishment.' <https://www.polygon.com/2020/11/16/21563033/hades-supergiant-games-erotic-power-play>
- Dibbell, J. (2006) *Play money: Or, how I quit my day job and made millions trading virtual loot*. New York: Basic Books.

- Diver, M. (2016) 'Discussing *The Last Guardian* with Director Fumito Ueda.' Available from:
<https://www.vice.com/en/article/ppam8b/discussing-the-last-guardian-with-director-fumito-ueda>
- Dubbelman, T. (2016) 'Narrative Game Mechanics.' In F. Nack and A. Gordon (Eds.), *Interactive Storytelling*, ICIDS 2016: Lecture Notes in Computer Science, Vol 10045: 39 – 50.
- Dying Light 2 Stay Human* official website. Available from: <https://dl2.dyinglightgame.com/>
- Egenfeldt-Nielsen, S., Smith, J.H. and Tosca, S.P. (2016) *Understanding Video Games: The Essential Introduction* [third edition]. New York: Routledge.
- Elauria, J. (2022) '10 Best Companions in Gaming History.' Available from:
<https://screenrant.com/best-companions-in-gaming-history/>
- El-Nasr, M.S., Bishko, L., Zammitto, V., Nixon, M., Vasiliakos, A.V. and Wei, H. (2009) 'Believable Characters.' In B. Furht (Ed.), *Handbook of Multimedia for Digital Entertainment and Arts*, 497 – 528. New York: Springer.
- Emasiri, D. (2017) 'Ueda's Legacy – Design by Subtraction.' Available from:
<https://demasiri.wordpress.com/2017/01/22/design-by-subtraction/>
- Emmerich, K. and Masuch, M. (2016). *The Influence of Virtual Agents on Player Experience and Performance. Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play - CHI PLAY '16*.
- Erdelack, W. (2009) 'GDC 09: Just Remember All Caps When You Spell the Man Name.' Available from: <http://versusclululand.blogspot.com/2009/04/just-remember-all-caps-when-you-spell.html>
- Errity, A., Rooney, N. and Tunney, C. (2016) 'Gaming.' In I. Connolly, M. Palmer, Barton, H. and Kirwan, G. (Eds.), *An Introduction to Cyberpsychology*, 257 – 270. New York: Routledge.

- Etchells, P. (2019) *Lost in a Good Game: Why we play video games and what they can do for us*. London: Icon Books.
- Fabricatore, C. (2007) 'Gameplay and Game Mechanics: A Key to Quality in Videogames.' In: ENLACES (MINEDUC Chile)-OECD Expert Meeting on Videogames and Education, 29-31, Santiago de Chile, Chile. Available from: <http://eprints.hud.ac.uk/id/eprint/20927/>
- Farokhmanesh, M. (2021) '*Hades* almost starred its worst character.' Available from: <https://www.theverge.com/2021/3/5/22315749/hades-theseus-worst-character-zagreus-supergiant>
- Ferguson, C.J. (2018) *Video Game Influences on Aggression, Cognition, and Attention*. Springer, Cham.
- Focus Entertainment official YouTube channel (2019) '*A Plague Tale: Innocence* | Sean Bean - *The Little Boy Lost*.' Available from: https://www.youtube.com/watch?v=LtPclEoODrc&t=66s&ab_channel=FocusEntertainment
- Focus Entertainment official YouTube channel (2021) '*A Plague Tale: Innocence* - 4K UHD for PS5 & Xbox Series X | cloud version on Nintendo Switch.' Available from: https://www.youtube.com/watch?v=Evv-ECak35g&ab_channel=FocusEntertainment
- Fogel, S. (2012) 'The Walking Dead Episode 3: Long Road Ahead is a dark, emotional tale (review).' Available from: <https://venturebeat.com/games/the-walking-dead-episode-3-long-road-ahead-review/>
- Francis, B. (2019) 'Supergiant's fourth outing *Hades* introduces a more mature, organized dev process.' Available from: <https://www.gamedeveloper.com/design/supergiant-s-fourth-outing-i-hades-i-introduces-a-more-mature-organized-dev-process>

- Frome, J. (2019) 'Interactive Works and Gameplay Emotions.' *Games and Culture*, 14(7–8): 856–874.
- Fullerton, T. (2019) *Game Design Workshop: A Playcentric Approach to Creating Innovative Games* [fourth edition]. Boca Raton: CRC Press.
- Gallant, M (2009) 'Mechanics, Dynamics & Aesthetics.' Available from:
<http://gangles.ca/2009/08/21/mda/>
- Galloway, A. (2006) *Gaming: Essays on Algorithmic Culture*. Minneapolis: University of Minnesota Press.
- GameSlice (2016) 'Fumito Ueda and Geoff Keighley Interview on *Last Guardian*. Available from:
https://www.youtube.com/watch?v=m1Cx_0heSOw&ab_channel=gameslice
- GameSpark (2021) '海外インデュー探訪#02 Supergiant Games – Interview with Greg Kasavin.' Available from: <https://www.gamespark.jp/article/2021/04/15/107824.html>
- Gish, H. (2019) 'Grand Theft Auto V: Avatars.' In M.T. Payne and N.B. Huntemann (Eds.), *How to Play Video Games*, 36 - 43. New York: New York University Press.
- Golding, D. (2019) 'The Legend of Zelda: Ocarina of Time: Music.' In M.T. Payne and N.B. Huntemann (Eds.), *How to Play Video Games*, 82 - 92. New York: New York University Press.
- GreedFall* official website. Available from: <https://www.focus-entmt.com/en/games/greedfall>
- Griffiths, M.D. (2016) 'Gaming Addiction and Internet Gaming Disorder.' In R. Kowert and T. Quandt (Eds.), *The Video Game Debate: Unravelling the Physical, Social, and Psychological Effects of Digital Games*, 74 - 93. New York: Routledge.

- Grizzard, M., Tamborini, R., Lewis, R.J., Wang, L. and Prabhu, S. (2014) 'Being bad in a video game can make us morally sensitive.' *Cyberpsychology, Behavior and Social Networking*, Vol 17(8): 499–504.
- Grodal, T. (2000) 'Video games and the pleasures of control.' In: D. Zillmann and P. Vorderer (Eds.), *Media Entertainment: The Psychology of Its Appeal*, 197–212. New York: Routledge.
- Gross, K. (2012) *On Dolls*. London: Notting Hill Editions Ltd.
- Hack, G. (2018) 'NPC and Me: How to become a Non-Player Character.' In B. Suter, M. Kocher, and R. Bauer (Eds.), *Games and Rules: Game Mechanics for the "Magic Circle,"* 293 - 298. *Media Studies*, Vol. 53. Transcript Verlag, Bielefeld.
- Hamilton, E. (1942) *Mythology*. New York: Back Bay Books, 1998.
- Hartmann, T. and Vorderer, P. (2010) 'It's okay to shoot a character: Moral disengagement in violent video games. *Journal of Communication*, Vol. 60(1): 94–119.
- Hazlett, R. (2008) 'Using Biometric Measurement to Help Develop Emotionally Compelling Games.' In K. Isbister and N. Schaffer (Eds.), *Game Usability Advice from the Experts for Advancing the Player Experience*, 317 – 343. Burlington: Elsevier.
- Hendrick, C. (1990) 'The Nature of Rapport.' *Psychological Inquiry*. 1(4): 312-315.
- Herman, D. (2009) *Basic Elements of Narrative*. Chichester: Wiley-Blackwell.
- Herman, D. (2013) *Storytelling and the Sciences of Mind*. Cambridge: MIT Press.
- Hinck, I (2020) 'Hall of Greats presentation for March 2020.' Available from: <http://ianhinck.com/IanHallOfGreatsPresentationMarch2020.html>
- Hiwiler, Z. (2016) *Players Making Decisions: Game Design Essentials and the Art of Understanding Your Players*. New Riders.

- Hofmann, I. (2018) 'Requirements for a General Game Mechanics Framework.' In B. Suter, M. Kocher, and R. Bauer (Eds.), *Games and Rules: Game Mechanics for the "Magic Circle,"* 67-86. *Media Studies*, Vol. 53. Transcript Verlag, Bielefeld.
- How Long to Beat (2022) '*Hades*.' Available from: <https://howlongtobeat.com/game/62941>
- Howes, R. (2021) 'Baudelaire and The Philosophy of Toys.' Available from: <https://liberalarts.online/ baudelaire-and-the-philosophy-of-toys/>
- Huizinga, J. (1938) *Homo Ludens: A study of play element in culture*. Boston: Beacon Press.
- Hunicke, R., LeBlanc, M. and Zubek, R. (2004) 'MDA: A Formal Approach to Game Design and Game Research.' Proceedings of the Challenges in Games AI Workshop, Nineteenth National Conference of Artificial Intelligence, Northwestern University.
- Isbister, K. (2006) *Better Game Characters by Design: A Psychological approach*. San Francisco: Morgan Kaufmann Publishers.
- Isbister, K. (2008) 'Social Psychology and User Research.' In K. Isbister and N. Schaffer (Eds.), *Game Usability Advice from the Experts for Advancing the Player Experience*, 309 – 316. Burlington: Elsevier.
- Isbister, K. (2009) 'Understand Social Play.' in C. Bateman (Ed.), *Beyond Game Design: Nine Steps Toward Creating Better Videogames*, 49 – 59. Boston: Course Technology.
- Isbister, K. (2016) *How Games Move Us: Emotion by Design*. Cambridge: MIT Press.
- Isbister, K. (2019) 'PaRappa the Rapper: Emotion.' In M.T. Payne and N.B. Huntemann (Eds.), *How to Play Video Games*, 134 - 140. New York: New York University Press.
- Isbister, K. (official website) 'About.' Available from: <https://www.katherineinterface.com/>
- Izard, C. E. (2010) 'The many meanings/aspects of emotion: Definitions, functions, activation, and regulation.' *Emotion Review*, Vol 2: 363–370.

- Jenkins, H. (2006) 'From Serious Games to Serious Gaming.' Available from:
http://henryjenkins.org/2006/11/from_serious_games_to_serious.html
- Johnson, J. (2012) 'A Child in Bogota.' Available from: <http://www.bitcreature.com/features/a-child-in-bogota/>
- Joho, J. (2017) 'Video games are creating smarter animals.' Available from:
<https://www.polygon.com/features/2017/5/17/15442666/videogame-animals-smarter>
- Juul, J. (2005) *Half-Real: Video Games between Real Rules and Fictional Worlds*. Cambridge: MIT Press.
- Juul, J. (2013) *The Art of Failure: An Essay on the Pain of Playing Video Games*. Cambridge: MIT Press.
- Kapp, K.M. (2012) *The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education*. San Francisco: Pfeiffer.
- Kato, H. and Bauer R. (2018) 'The Player as Puppet: Visualized Decisions as a Challenge for Computer Games.' In B. Suter, M. Kocher, and R. Bauer (Eds.), *Games and Rules: Game Mechanics for the "Magic Circle,"* 217-242. *Media Studies*, Vol. 53. Transcript Verlag, Bielefeld.
- Katz, I. and Assor, A. (2006) 'When Choice Motivates and When It Does Not.' *Educational Psychology Review*, Vol. 19(4): 429 – 442
- Kennedy, A. (2016) 'Choice, Consequence and Complicity.' Available from:
<https://www.youtube.com/watch?v=-FfITxaXeqM>
- Klepek, P. (2018) 'God of War Triumphs Because It Confronts Its Own Bloody Legacy.'
 Available from: <https://www.vice.com/en/article/kzxxwx/god-of-war-review>

- Klepek, P. (2020) 'How *Hades* Made a Genre Known for Being Impossibly Hard Accessible.' Available from: <https://www.vice.com/en/article/889zqa/how-hades-made-a-genre-known-for-being-impossibly-hard-accessible>
- Klinger, B. (2006) *Beyond the Multiplex: Cinema, New Technologies, and the Home*. Berkeley: University of California Press.
- Koenitz, H. (2018) 'Narrative in Video Games.' In N. Lee (Ed), *Encyclopedia of Computer Graphics and Games*. Springer, Cham.
- Kollar, P. (2016) 'Final Fantasy 15 review.' Available from: <https://www.polygon.com/2016/11/28/13661570/final-fantasy-15-review-xv-ff15-ps4-playstation-4-xbox-one-square-enix>
- Konzack, L. (2002) 'Computer Game Criticism: A Method for Computer Game Analysis.' CGDC Conference Proceedings, 89-100. Tampere University Press.
- Koster, R. (2013a) 'A Letter to Leigh.' Available from: <https://www.raphkoster.com/2013/04/09/a-letter-to-leigh/>
- Koster, R. (2013b) 'On choice architectures.' Available from: <https://www.raphkoster.com/2013/04/24/on-choice-architectures/>
- Koster, R. (2013c) *A Theory of Fun for Game Design*. Sebastopol: O'Reilly Media, Inc.
- Krapp, P. (2019) 'Sid Meier's Civilization: Realis.' In M.T. Payne and N.B. Huntemann (Eds.), *How to Play Video Games*, 44 - 51. New York: New York University Press.
- Krettek, D. (2019) 'Design Feeling: Empathy in the Age of AI | Danielle Krettek.' Available from: <https://www.youtube.com/watch?v=UnAVmnxvvcQ>
- Lamerichs, N. (2014) 'Romancing Pigeons: The Deconstruction of the Dating-Sim in Hatoful Boyfriend.' *Well Played*, Vol. 3(2): 43 – 61.

- Lankoski, P. and Bjork, S. (2007) 'Character-Driven Game Design: Characters, Conflicts and Gameplay.' Conference: GDTW, Sixth International Conference in Game Design and Technology.
- Lazzaro, N. (2004) 'Why we play games: Four keys to more emotion without story (XEODesign, Inc). White Paper. Available from:
http://www.xeodesign.com/xeodesign_whyweplaygames.pdfhttp://www.xeodesign.com/xeodesign_whyweplaygames.pdf
- Lazzaro, N. (2008) 'The Four Keys of Fun.' In K. Isbister and N. Schaffer (Eds.), *Game Usability Advice from the Experts for Advancing the Player Experience*, 317 – 343. Burlington: Elsevier.
- Lazzaro, N. (2009) 'Understand Emotions.' in C. Bateman (Ed.), *Beyond Game Design: Nine Steps Toward Creating Better Videogames*, 3 – 48. Boston: Course Technology.
- Lazzaro, N. (2019) 'Why We Play Games.' In T. Fullerton, *Game Design Workshop: A Playcentric Approach to Creating Innovative Games* [fourth edition], 282 – 284. Boca Raton: CRC Press.
- Le Guin, U.K. (1968) *A Wizard of Earthsea*. Boston: Houghton Mifflin.
- Lebowitz, J. and Klug, C. (2011) *Interactive Storytelling for Video Games: A Player-Centered Approach to Creating Memorable Characters and Stories*. Burlington: Elsevier Inc.
- Leigh Foster, S. (2005) 'Dance and Narrative.' In D. Herman., M. Jahn and M.L. Ryan (Eds.), *Routledge Encyclopedia of Narrative Theory*, 95 – 96. New York: Routledge.
- Lemoine, B. (2022) 'Is LaMDA Sentient?—an Interview.' Available from:
<https://cajundiscordian.medium.com/is-lamda-sentient-an-interview-ea64d916d917>

- Leone, M. (2013) 'How Milo met Kate: The story behind Lionhead's virtual boy.' Available from: <https://www.polygon.com/features/2013/3/21/4063508/milo-and-kate>
- Life is Strange* official website. Available from: <https://lifeisstrange.square-enix-games.com/en-us/games/life-is-strange-remastered-collection/>
- Limelight Networks (2020) 'Market Research: The state of online gaming – 2020.' Available from: <https://www.limelight.com/resources/white-paper/state-of-online-gaming-2020/>.
- Limon, N. (2020) '*Hades* Review.' Available from: <https://www.ign.com/articles/hades-review>
- Livingstone, D. (2006) 'Turing's test and believable AI in games.' *Computer Entertainment*, 4(1): 1-13.
- Loyall, A. B. (1997) *Believable Agents: Building Interactive Personalities*. Ph.D. thesis, School of Computer Science, Computer Science Department, Carnegie Mellon University. Tech report CMU-CS-97-123. Pittsburgh: Carnegie Mellon University.
- Mahood, C. and Hanus, M. (2017) 'Role-Playing Video Games and Emotion: How Transportation into the Narrative Mediates the Relationship Between Immoral Actions and Feelings of Guilt.' *Psychology of Popular Media Culture*, Vol. 6(1): 61–73.
- Malaby, T.M. (2007) 'Beyond Play: A New Approach to Games.' *Games and Culture*, Vol. 2(2), 95 – 113.
- Martin, P. (2018) 'The intellectual structure of game research.' *Game Studies*, Vol. 18. Available from: http://gamestudies.org/1801/articles/paul_martin
- Mateas, M. (1999) 'An Oz-Centric Review of Interactive Drama and Believable Agents.' In M.J. Wooldridge and M. Veloso (Eds.), *Artificial Intelligence Today: Recent Trends and Developments*. Lecture Notes in Artificial Intelligence 1600: 297 – 328.

- Matulef, J. (2016) ‘*Event[0]* is 2001 meets *Firewatch*, due this September.’ Available from:
<https://www.eurogamer.net/event-0-is-2001-meets-firewatch-due-this-september>
- McCarthy, C. (2006) *The Road*. New York: Alfred A. Knopf.
- McGonigal, J. (2011) *Reality is Broken: Why Games Make Us Better and How They Can Change the World*. London: Vintage Books.
- Meer, A. (2012) ‘Care for A Wee Taste of *Skyrim* 1.4?’ Available from:
<https://www.rockpapershotgun.com/care-for-a-wee-taste-of-skyrim-1-4>
- Meier, S. (2012) Sid Meier’s Interesting Decisions. GDC presentation. Available from:
https://www.youtube.com/watch?v=WggIdtrqgKg&ab_channel=GDC
- Meretzky, S. (2008) ‘The Creation of Floyd the Robot in *Planetfall*.’ Available from:
<https://electronicbookreview.com/essay/the-creation-of-floyd-the-robot-in-planetfall/>
- Merriam-Webster Dictionary: Companionship. Available from: <https://www.merriam-webster.com/dictionary/companionship>
- Metacritic (2019) ‘Best Video games of the decade (2010-19).’ Available from:
<https://www.metacritic.com/feature/best-videogames-of-the-decade-2010s>
- Miyabe, M. (2005) ‘The Da Vinci interview: Miyuki Miyabe talks with Fumito Ueda.’ Available from:
<https://web.archive.org/web/20081017100148/http://www.tigmagazine.com/davinci.html>
- Molen, B. (2014) ‘Her name is Cortana. Her attitude is almost human.’ Available from:
<https://www.engadget.com/2014-06-04-cortana-microsoft-windows-phone.html>
- Molyneux, P. (2010) ‘Meet Milo, the virtual boy.’ Available from:
[https://www.ted.com/talks/peter_molyneux_meet_milo_the_virtual_boy?language=en&sub](https://www.ted.com/talks/peter_molyneux_meet_milo_the_virtual_boy?language=en&subtitle=en)
 btitle=en

- Moosa, T. (2020) '*A Plague Tale: Innocence*'s resonance into today's plague-filled world.' Available from: <https://ineeddiversegames.org/2020/05/05/a-plague-tale-innocences-resonance-into-todays-plague-filled-world/>
- Nakamura, T. (2015) 'In *Final Fantasy XV*, Cooking Is Important.' Available from: <https://www.kotaku.com.au/2015/02/in-final-fantasy-xv-cooking-is-important/>
- Nass, C. (2010) *The Man Who Lied to His Laptop: What We Can Learn About Ourselves from Our Machines*. New York: Penguin Books.
- Nelson, A.A., Grahe, J.E. and Ranseyer, F. (2016) 'Interacting in Flow: An Analysis of Rapport-Based Behavior as Optimal Experience.' Sage Open, Vol. 6(4): 1 – 11.
- NeoGamer (2020) 'Making of - *A Plague Tale: Innocence* [Behind the Scenes].' Available from: https://www.youtube.com/watch?v=aniRVWQ0WgM&ab_channel=NeoGamer-TheVideoGameArchive
- Next Generation (1997) 'Finding companionship in a digital age.' In *Next Generation*, Vol 34: 56 – 63.
- Niewiadomski, R., Demeure, V. and Pelachaud, C. (2010) 'Warmth, Competence, Believability and Virtual Agents.' In J.M. Allbeck, N.I. Badler, T. Bickmore, C. Pelachaud and A. Safonova (Eds.), *Intelligent Virtual Agents*. Lecture Notes in Computer Science 6356. 10th International Conference: 272 – 285.
- Nilsson, N.J. (2010) *The Quest of Artificial Intelligence*. New York: Cambridge University Press.
- Olson, D.H. (1977) 'Insiders' and outsiders' views of relationships: Research studies.' In G. Levinger and H.L. Raush (Eds.), *Close relationships: Perspectives on the meaning of intimacy*, 115-135. Amherst: University of Massachusetts Press.

- Park, G. (2020) '*Hades* is a storytelling masterclass with ample lessons for other games.' Available from: <https://www.washingtonpost.com/video-games/reviews/hades-is-storytelling-masterclass-with-ample-lessons-other-games/>
- Parrish, A. (2020) 'Why Everyone's Horny for *Hades*.' Available from: <https://kotaku.com/why-everyones-horny-for-hades-1845245468>
- Payne, M.T. and Huntemann, N.B. (2019) 'Introduction: A Game Genie for Game Studies.' In M.T. Payne and N.B. Huntemann (Eds.), *How to Play Video Games*, 1 - 10. New York: New York University Press.
- PC gamer, Eyewitness: Complete AI Interviews. (2002). Available from: <http://tinyurl.com/eyewitness-2002-09-18>
- Peckham, M. (2016) 'After Years in Development, *The Last Guardian* Is a Thing of Wonder.' Available from: <https://time.com/4588009/the-last-guardian-review/>
- Perron, B. (2005) 'A Cognitive Psychological Approach to Gameplay Emotions.' Proceedings of the 2005 DiGRA International Conference: Changing Views: Worlds in Play. Vol: 3.
- PlayStation Store: 'The best narrative adventure games on PS4 and PS5.' Available from: <https://www.playstation.com/en-us/editorial/this-month-on-playstation/great-narrative-games-on-ps4/>
- Potter, A. (2022) '10 best game companions to take with you on your digital journeys.' Available from: <https://www.gamesradar.com/best-game-companions/>
- Prasertvithyakarn, P. (2018) 'Walk Tall, My Friends: Giving Life to AI-Buddies in *Final Fantasy XV*.' Available from: <https://www.gdcvault.com/play/1025442/Walk-Tall-My-Friends-Giving>

- Radoff, J. (2011) 'Designing for User Motivation.' GSummit NYC 2011. Available from:
https://www.youtube.com/watch?v=I79icpye_PQ&ab_channel=GamificationCo
- Rauch, J. (2006) 'Sex, Lies, and Videogames.' Available from:
<https://www.theatlantic.com/magazine/archive/2006/11/sex-lies-and-videogames/305293/>
- Redder, B. D. and Schott, G. (2022) 'Rats, Plagues, and Children, Oh My! Multimodal Representations of the Past in Historical Games.' *Video Journal of Education and Pedagogy*, Vol. 6(1): 1 – 21.
- Richard, G.T. (2014) 'Designing for the Audience and Inclusive Considerations.' In K. Schrier (Ed.), *Learning, Education and Games*, 201 – 223. Pittsburgh: ETC Press.
- Richardson, K. (2015) *An Anthropology of Robots and AI: Annihilation Anxiety and Machines*. New York: Routledge.
- Rieger, D., Frischlich, L., Wulf, T., Bente, G. and Kneer, J. (2015) 'Eating Ghosts: The Underlying Mechanisms of Mood Repair via Interactive and Noninteractive Media.' *Psychology of Popular Media Culture*, Vol 4(2): 138–154.
- Rigby, S. (2017) 'The Freedom Fallacy: Understanding Player Autonomy in Game Design.' Available from: <https://www.youtube.com/watch?v=kBSB2X4Sbak>
- Rollings, A. and Morris, D. (2004) *Game Architecture and Design: A New Edition*. Boston: New Riders Publishing.
- Ryan, M. (2007) 'Toward a definition of narrative.' In D. Herman (Ed.), *The Cambridge Companion to Narrative*, 22 - 36. Cambridge: Cambridge University Press
- Salen, K. and Zimmerman, E. (2004) *Rules of Play - Game Design Fundamentals*. Cambridge: MIT Press.

- Sarkar, S. (2013) 'Irrational on partnering *BioShock Infinite*'s Elizabeth with a psychopathic alcoholic player.' Available from:
<https://www.polygon.com/2013/3/25/4145962/bioshock-infinite-elizabeth-pax-east-2013>
- Schell, J. (2015) *The art of game design: A book of lenses* [second edition]. Boca Raton: CRC Press.
- Schrier, K. (2016) 'Emotion, Empathy, and Ethical Thinking in Fable III.' In S.Y. Tettegah and W.D. Huang (Eds.), *Emotions and Technology: Emotions, Technology, and Digital Games*, 35 - 60. London: Elsevier Inc.
- Schwartz, B. (2004) *The Paradox of Choice: Why More Is Less*. New York: Harper Perennial.
- Scott H. Hemenover, S.H. and Bowman N.D. (2018): 'Video games, emotion, and emotion regulation: expanding the scope.' *Annals of the International Communication Association*. 42(2): 125-143.
- Sheldon, L. (2004) *Character Development and Storytelling for Games*. Boston: Thomson Course Technology PTR.
- Shoham, Y. (1993) 'Agent-oriented programming.' *Artificial Intelligence*, Vol. 60 (1): 51-92.
- Sicart, M. (2008) 'Defining Game Mechanics.' *Game Studies* 8(2): Available from:
<http://gamestudies.org/0802/articles/sicart>.
- Sicart, M. (2013) *Beyond Choices: The Design of Ethical Gameplay*. Cambridge: MIT Press.
- Simons, J. (2007) 'Narrative, Games, and Theory,' *Game Studies* 7(1): Available from:
<http://gamestudies.org/0701/articles/simons>
- Sjöblom, M. and Hamari, J., (2017) 'Why do people watch others play video games? An empirical study on the motivations of Twitch users.' *Computers in Human Behavior*, Vol. 75: 985 – 996.

- Sjöblom, M., Törhönen, M., Hamari, J. and Macey, J. (2017) 'Content structure is king: An empirical study on gratifications, game genres and content type on Twitch.' *Computers in Human Behavior*, Vol. 73: 161 - 171.
- Spector, W. (2013) 'Narrative in Games - Role, Forms, Problems, and Potential.' Available from: https://www.youtube.com/watch?v=8IIL9fVfFw8&ab_channel=GDC
- STACK (2016) 'Fumito Ueda on *The Last Guardian*.' Available from: https://www.youtube.com/watch?v=MRdX61lebsM&ab_channel=STACKPresents
- Stern, A. (2002) 'Creating Emotional Relationships with Virtual Characters.' In R. Trappl, P. Petta and S. Payr (Eds.), *Emotions in Humans and Artifacts*, 333 - 362. Cambridge: MIT Press.
- Sternos, J. (2012) 'In Defence of a Magic Circle: The Social and Mental Boundaries of Play.' *DiGRA Nordic '12: Proceedings of 2012 International DiGRA Nordic Conference*, Vol. 10. Available from: <http://www.digra.org/digital-library/publications/in-defence-of-a-magic-circle-the-social-and-mental-boundaries-of-play/>
- Stuart, K. (2014) 'Will we ever have love affairs with video game characters?' Available from: <https://www.theguardian.com/technology/blog/2014/feb/28/love-affairs-with-video-game-characters>
- Stuart, K. (2016a) 'Video games where people matter? The strange future of emotional AI.' Available from: <https://www.theguardian.com/technology/2016/oct/12/video-game-characters-emotional-ai-developers>
- Stuart, K. (2016b) '*The Last Guardian* creator: 'I can't face playing my own game'.' Available from: <https://www.theguardian.com/technology/2016/jun/28/the-last-guardian-fumito-ueda-interview>

- Stuart, K. (2017) 'Video games don't love or hate you - they're just built that way.' Available from:
<https://www.eurogamer.net/video-games-dont-love-or-hate-you-theyre-just-built-that-way>
- Stuart, K. (2018) 'From superheroes to soap operas: five ways video game stories are changing forever.' Available from: <https://www.theguardian.com/games/2018/sep/24/from-superheroes-to-soap-operas-five-ways-video-game-stories-are-changing-forever>
- Suellentrop, C. (2012) 'A Monster, but No Epic Battle.' Available from:
<https://www.nytimes.com/2012/09/26/arts/video-games/video-game-review-papo-yo.html>
- Supergiant Games official website (2021) '*Hades* FAQ.' Available from:
<https://www.supergiantgames.com/blog/hades-faq>
- Supergiant Games official YouTube channel (2020) '*Hades* - v1.0 Launch Trailer.' Available from: https://www.youtube.com/watch?v=Bz8l935Bv0Y&ab_channel=SupergiantGames
- Suter, M. (2018) 'Rules of Play as a Framework for the "Magic Circle".' In B. Suter, M. Kocher, and R. Bauer (Eds.), *Games and Rules: Game Mechanics for the "Magic Circle,"* 19 - 33. *Media Studies*, Vol. 53. Transcript Verlag, Bielefeld.
- Suter, M., Kocher, M. and Bauer, R. (2018) 'Introduction.' In B. Suter, M. Kocher, and R. Bauer (Eds.), *Games and Rules: Game Mechanics for the "Magic Circle,"* 7 - 16. *Media Studies*, Vol. 53. Transcript Verlag, Bielefeld.
- Swink, S. (2022) 'Usability and Game Feel.' In K. Isbister and C. Hodent (Eds.), *Game Usability: Advice from the Experts for Advancing UX Strategy and Practice in Videogames* [second edition], 35 – 57. Boca Raton: CRC Press.
- Taylor, J. (2019) 'Interview Extra: Fumito Ueda.' Available from:
<https://caneandrinse.com/fumito-ueda-interview/>

- Taylor, T.L. (2018) *Watch Me Play: Twitch and the Rise of Game Live Streaming*. Princeton: Princeton University Press.
- Tence, F., Buche, C., de Loor, P. and Marc, O. (2010) 'The Challenge of Believability in Video Games: Definitions, Agents Models and Imitation Learning.' GAMEON-ASIA'2010. 38-45.
- Tettegah, S.Y. and Wenhao, D.H. (2016) 'Forward.' In S.Y. Tettegah and W.D. Huang (Eds.), *Emotions and Technology: Emotions, Technology, and Digital Games*, xiii - xvi. London: Elsevier Inc.
- The Game Awards (2021a) 'Games for Impact.' Available from:
<https://thegameawards.com/nominees/games-for-impact>
- The Game Awards (2021b) 'Best Narrative.' Available from:
<https://thegameawards.com/nominees/best-narrative>
- Thompson, T. (2017) 'The AI of *BioShock Infinite*'s Elizabeth.' Available from
https://www.youtube.com/watch?v=Yht4Oojfuvs&ab_channel=AIandGames
- Thompson, T. (2020) 'The Story of *Façade*: The AI-Powered Interactive Drama.' Available from:
<https://www.gamedeveloper.com/design/the-story-of-facade-the-ai-powered-interactive-drama>
- Thorsen, T. (2010) 'Microsoft's Greenberg recants Milo comments, says game 'in development'.' Available from: <https://www.gamespot.com/articles/microsofts-greenberg-recants-milo-comments-says-game-in-development/1100-6267123/>
- Tickle-Degnen, L. (2006) 'Nonverbal Behavior and its Functions in the Ecosystem of Rapport.' In V. Manusov and M. Patterson (Eds.), *The SAGE handbook of nonverbal communication*, 381-401. Thousand Oaks: SAGE publications.

- Tickle-Degnen, L. and Rosenthal, R. (1990) 'The Nature of Rapport and its Nonverbal Correlates.' *Psychological Inquiry*. 1(4): 285–293.
- Tiku, N. (2022) 'The Google engineer who thinks the company's AI has come to life.' Available from: <https://www.washingtonpost.com/technology/2022/06/11/google-ai-lamda-blake-lemoine/>
- Toh, W. (2016) 'Gamers and Their Weapons: An Appraisal Perspective on Weapons manipulation in Video Games.' In S.Y. Tettegah and W.D. Huang (Eds.), *Emotions and Technology: Emotions, Technology, and Digital Games*, 83 - 113. London: Elsevier Inc.
- Tomas, F. and Johnston, O. (1981) *The Illusion of Life: Disney Animation*. Walt Disney Productions, New York: Abbeville Press.
- Trappl, R. and Payr, S. (2002) 'Emotions: From Brain Research to Computer Game Development.' In R. Trappl, P. Petta and S. Payr (Eds.), *Emotions in Humans and Artifacts*, 1 – 10. Cambridge: MIT Press.
- Turkle, S. (1984) *The second self: computers and the human spirit*. Cambridge: MIT Press.
- Turkle, S. (1995) *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.
- Turkle, S. (2011) *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic
- TwitchTracker (2022) 'Top games through history.' Available from: <https://twitchtracker.com/statistics/games>
- Umarov I. and Mozgovoy, M. (2012) 'Believable and Effective AI Agents in Virtual Worlds: Current State and Future Perspectives. *International Journal of Gaming and Computer-Mediated Simulations*, Vol. 4(2): 37-59.

- Umarov, I., Mozgovoy, M. and Rogers, P.C. (2014) 'Believable and Effective AI Agents in Virtual Worlds.' *International Journal of Gaming and Computer-Mediated Simulations*, Vol. 4(2): 37 – 59.
- Valdes, G. (2018) 'How *A Plague Tale: Innocence* Makes Diseased Rats So Terrifying.' Available from: <https://variety.com/2018/gaming/features/a-plague-tale-innocence-interview-1202850698/>
- Valentine, R. (2021) '*GTA V* Was the Most-Watched Game on Twitch in 2021.' Available from: <https://www.ign.com/articles/gta-v-most-watched-twitch-2021>
- Vanden Bossche, A. (2013) 'The Tyranny of Choice.' Available from: <https://gameranx.com/features/id/14224/article/the-tyranny-of-choice/>
- VandenBerghe, J. (2012) 'The 5 Domains of Play: Applying Psychology's Big 5 Motivation Domains to Games.' Available from: <https://www.gdcvault.com/play/1015364/The-5-Domains-of-Play>
- VandenBerghe, J. (2013) 'Acting Like Players: Applying the 5 Domains of Play.' Available from: <https://www.gdcvault.com/play/1017876/Applying-the-5-Domains-of>
- Versu (2013) Available from: <https://versu.com/>
- Villarica, R. and Richards, D. (2014) 'Intelligent and Empathic Agent to Support Student Learning in Virtual Worlds.' *Proceedings of the 2014 Conference on Interactive Entertainment (IE2014)*. Association for Computing Machinery, 1–9.
- Viso.ai (2022) 'AI Emotion and Sentiment Analysis with Computer Vision in 2022.' Available from: <https://viso.ai/deep-learning/visual-emotion-ai-recognition/>

- Warren, T. (2014) 'The story of Cortana, Microsoft's Siri killer.' Available from: <https://www.theverge.com/2014/4/2/5570866/cortana-windows-phone-8-1-digital-assistant>
- Weaver, A. J. and Lewis, N. (2012) 'Mirrored morality: an exploration of moral choice in video games.' *Cyberpsychology, Behavior, and Social Networking*, Vol. 15: 610–614.
- Weizenbaum, J. (1984) *Computer power and human reason: from judgment to calculation*. Harmondsworth: Penguin Books.
- Wholesome Games (2022) 'FAQ.' Available from: <https://wholesomegames.com/#faq>
- Williams, D. (2005) 'Bridging the methodological divide in game research.' *Simulation & Gaming*, Vol. 36(4): 447–463.
- Williams, R. (2016) '*The Last Guardian*: Fumito Ueda on bringing Trico to life.' Available from: <https://inews.co.uk/news/technology/last-guardian-fumito-ueda-bringing-trico-life-35067>
- Wiltshire, A. (2021) 'How *Hades* plays with Greek myths.' Available from: <https://www.rockpapershotgun.com/how-hades-plays-with-greek-myths>
- Wolf, M.J.P., and Perron, B. (2003) *The Video Game Theory Reader*. New York: Routledge.
- Wooldridge, M., and Jennings, N. R. (1995) 'Intelligent agents: theory and practice.' *The Knowledge Engineering Review*, Vol. 10(02): 115 – 152.
- Wulf, T., Schneider, F. M. and Beckert, S. (2018) 'Watching Players: An Exploration of Media Enjoyment on Twitch.' *Games and Culture*, Vol. 15(3): 328-346.
- Yee, N. (2006) 'Motivations for Play in Online Games.' *CyberPsychology & Behavior*, Vol. 9(6): 772 - 775.
- Yee, N. (2014) *The Proteus Paradox: How Online Games and Virtual Worlds Change Us—And How They Don't*. London: Yale University Press.

- Yin-Poole, W. (2012) ‘*BioShock Infinite*’s Elizabeth: Ken Levine on creating the best AI companion since *Half-Life 2*’s Alyx Vance.’ Available from:
<https://www.eurogamer.net/bioshock-infinities-elizabeth-ken-levine-on-creating-the-best-ai-companion-since-half-life-2s-alyx-vance>
- Yokotani, K., Takagi, G., and Wakashima, K. (2018) ‘Advantages of virtual agents over clinical psychologists during comprehensive mental health interviews using a mixed methods design.’ *Computers in Human Behavior*, Vol. 85: 135–145.
- Zagal, J. P., Fernandez-Vara, C. and Mateas, M. (2008) ‘Rounds, Levels, and Waves: The Early Evolution of Gameplay Segmentation.’ *Games and Culture*, 3(2): 175–198.
- Zhao, R., Papangelis, A., Cassell, J. (2014) ‘Towards a dyadic computational model of rapport management for human-virtual agent interaction.’ In T. Bickmore, S. Marsella, and C. Sidner (Eds.), *Intelligent Virtual Agents 2014. LNCS (LNAI)*, Vol. 8637: 514–527.

Ludography

- 2K Games (2007) *BioShock*. Directed by Ken Levine. Developed and published by 2K Games.
- Activision (1985) *Little Computer People*. Designed by David Crane and Rich Gold. Developed and published by Activision.
- Addictive Games (1982) *Football Manager*. Designed by Kevin Tom. Published by Addictive Games.
- Antonisse, Jamie and Devon Johnson (2008) *Hush* (freeware).
- Asobo Studio (2019) *A Plague Tale: Innocence*. Directed by David Dedeine and Kevin Choteau. Developed by Asobo Studio, published by Focus Home Interactive.

Battlestate Games (2017) *Escape from Tarkov*. Designed by Nikita Buyanov. Developed by Battlestate Games, published by Battlestate Game.

Bethesda Game Studios (2011) *The Elder Scrolls V: Skyrim*. Directed by Todd Howard. Developed by Bethesda Game Studios, published by Bethesda Softworks.

Big Fish Games (2009) *Faunasphere*. Developed by Big Fish Games.

Big Red Software (1995) *Big Red Racing*. Developed by Big Red Software. Published by Domark.

Bungie (2001) *Halo*. Developed by Bungie (2001–2010), Ensemble Studios (2009) 343 Industries (2011–present) and Creative Assembly (2017). Published by Xbox Game Studios.

CD Projekt Red (2015) *The Witcher 3: Wild Hunt*. Directed by Konrad Tomaszkiewicz, Mateusz Kanik and Sebastian Stępień. Developed and published by CD Projekt.

CD Projekt Red (2020) *Cyberpunk 2077*. Directed by Adam Badowski. Developed and published by CD Projekt.

CyberLife (1996) *Creatures*. Designed by Toby Simpson. Published by Mindscape.

Demruth (2013) *Antichamber*. Developed by Alexander “Demruth” Bruce. Self-published.

Dontnod Entertainment (2015) *Life is Strange*. Directed by Raoul Barbet and Michel Koch. Developed by Dontnod Entertainment, published by Square Enix.

Epic Games (2017) *Fortnite*. Developed and published by Epic Games.

Fujitsu Interactive (1996) *Fin Fin on Teo the Magic Planet*. Developed and published by Fujitsu Interactive.

GenDESIGN (2016) *The Last Guardian*. Directed by Fumito Ueda. Developed by GenDESIGN, published by Sony Interactive Entertainment.

Hanger 13 (2016) *Mafia 3*. Directed by Haden Blackman. Developed by Hanger 13, published by 2K Games.

Hello Games (2016) *No Man's Sky*. Designed by Gareth Bourn. Developed and published by Hello Games.

Hofmeier, Richard (2011) *Cart Life* (freeware).

Housemarque (2021) *Returnal*. Directed by Harry Krueger. Developed by Housemarque, published by Sony Interactive Entertainment.

IceFrog (2013) *Dota 2*. Designed by IceFrog. Developed by IceFrog, published by Valve Corporation.

Impulsion Project (2012) Available from: <https://impulsionproject.net/>

Infocom (1983) *Planetfall*. Designed by Steve Meretzky. Developed and published by Infocom.

Irrational Games (2013) *BioShock Infinite*. Directed by Ken Levine. Developed by Irrational Games, published by 2K Games.

King (2012) *Candy Crush Saga*. Developed and published by King.

Latitude (2019) *AI Dungeon*. Designed by Nick Walton.

Lionhead Studios (2001) *Black & White*. Directed by Steve Jackson, designed by Peter Molyneux. Developed by Lionhead Studios, published by Electronic Arts.

Lionhead Studios (2009) *Project Milo*. Designed by Peter Molyneux.

Lionhead Studios (2010) *Fable III*. Directed by Jeremie Texie, designed by Peter Molyneux. Developed by Lionhead Studios, published by Microsoft Game Studios.

Minority Media Inc. (2012) *Papo & Yo*. Designed by Vander Caballero. Developed and published by Minority Media Inc.

Mojang Studios (2011) *Minecraft*. Designed by Markus Persson and Jens Bergensten. Developed and published by Mojang Studios.

NanaOn-Sha (1996) *PaRappa the Rapper*. Designed by Masaya Matsuura. Developed by NanaOn-Sha, published by Sony Computer Entertainment.

Naughty Dog (2013) *The Last of Us*. Directed by Bruce Straley and Neil Druckmann. Developed by Naughty Dog, published by Sony Computer Entertainment.

Naughty Dog (2016) *Uncharted 4: A Thief's End*. Directed by Bruce Straley and Neil Druckmann. Developed by Naughty Dog, published by Sony Computer Entertainment.

Nintendo (1985) *Super Mario Bros.* Designed by Shigeru Miyamoto and Takashi Tezuka. Developed and published by Nintendo.

Nintendo (2015) *Nintendogs*. Directed by Kiyoshi Mizuki. Developed and published by Nintendo.

Nintendo (2017) *The Legend of Zelda: Breath of the Wild*. Directed by Hidemaro Fujibayashi, produced by Eiji Aonuma. Developed and published by Nintendo.

Ocelot Society (2016) *Event[0]*. Developed and published by Ocelot Society.

PF Magic (1995) *Petz*. Developed and published by PF Magic.

PF Magic (1999) *Babyz*. Designed by Andrew Stern. Developed by PF Mafic, published by Mindscape.

Procedural Arts (2005) *Façade*. Designed by Andrew Stern and Michael Mateas. Developed and published by Procedural Arts.

Quantic Dream (2013) *Beyond: Two Souls*. Directed by David Cage. Developed by Quantic Dream, published by Sony Computer Entertainment.

Quantic Dream (2018) *Detroit: Become Human*. Directed by David Cage. Developed by Quantic Dream, Published by Sony Interactive Entertainment.

Raven Software and Infinity Ward (2020) *Call of Duty: Warzone*. Developed by Raven Software and Infinity Ward. Published by Activision.

Respawn Entertainment (2019) *Apex Legends*. Directed by Steven Ferreira. Developed by Respawn Entertainment, published by Electronic Arts.

Riot Games (2009) *League of Legends*. Directed by Andrei van Roon. Developed and published by Riot Games.

Riot Games (2020) *Valorant*. Directed by David Nottingham and Joe Ziegler. Developed and published by Riot Games.

Rockstar Games (2018) *Red Dead Redemption 2*. Designed by Imran Sarwar, produced by Rob Nelson. Developed and published by Rockstar Games.

Rockstar North (2013) *Grand Theft Auto V*. Designed by Leslie Benzies and Imran Sarwar. Developed by Rockstar North, published by Rockstar Games.

Romero, Brenda (2009) *Train* (exhibit).

Santa Monica Studio (2018) *God of War*. Directed by Cory Barlog. Developed by Santa Monica Studio, published by Sony Interactive Entertainment.

Sega (1991) *Sonic the Hedgehog*. Developed by Sonic Team, published by Sega.

Spiders (2019) *GreedFall*. Designed by Romain Meyer. Developed by Spiders, published by Focus Home Interactive.

Square (1997) *Final Fantasy VII*. Directed by Yoshinori Kitase. Developed and published by Square.

Square Enix (2016) *Final Fantasy XV*. Directed by Hajime Tabata. Developed and published by Square Enix.

Starbreeze Studios (2013) *Brothers: A Tale of Two Sons*. Directed by Joseph Fares. Developed by Starbreeze Studios, published by 505 Games.

Supergiant Games (2020) *Hades*. Designed by Amir Rao, Gavin Simon, Greg Kasavin, Eduardo Gorinstein and Alice Lai. Developed and published by Supergiant Games.

Team ICO (2001) *ICO*. Directed by Fumito Ueda. Developed by Team ICO, published by Sony Computer Entertainment.

Team ICO (2005) *Shadow of the Colossus*. Directed by Fumito Ueda. Developed by Team ICO, published by Sony Computer Entertainment.

Techland (2022) *Dying Light 2 Stay Human*. Directed by Adrian Ciszewski and Marc Albinet. Developed and published by Techland.

Telltale Games (2012) *The Walking Dead*. Developed and published by Telltale Games.

Thatgamecompany (2012) *Journey*. Directed by Jenova Chen. Developed by Thatgamecompany, published by Sony Computer Entertainment and Annapurna Interactive.

Ubisoft Montreal (2008) *Far Cry 2*. Directed by Clint Hocking. Developed by Ubisoft Montreal, published by Ubisoft.

Valve Corporation (2012) *Counter-Strike: Global Offensive*. Developed and published by Valve Corporation.

Yager Development (2012) *Spec Ops: The Line*. Directed by Cory Davis and Francois Coulon. Developed by Yager Development, published by 2K Games.

Film and TV shows

Castle, W. (Director). (1961). *Mr. Sardonicus* [Film]. Columbia Pictures.

Cerone, D., Colleton, S., Eglee, C.H., Goldwyn, J., Hall, M.C., Johannessen, C., Phillips, C., Manos, J., Coto. M., West. W., Schlattmann, T., Rosenberg, M., Richdale and J., Buck, S.

(Executive Producers). (2006 – 2013). *Dexter* [TV series]. The Colleton Company; John Goldwyn Productions; Clyde Phillips Productions; 801 Productions; Devilina Productions.

Gilligan, V., Johnson, M., and MacLaren, M. (Executive Producers). (2008 – 2013). *Breaking Bad* [TV series]. High Bridge Entertainment; Gran Via Productions; Sony Pictures Television.

Jonze, S. (Director). (2013) *Her* [Film]. Warner Bros. Pictures.

Ryan, S., Brazil, S., Mazzara, G., Eglee, C.H., Sutter, K., Rosenbaum, S. and Fierro, A. (Executive Producers). (2002 – 2008). *The Shield* [TV series]. MiddKid Productions; Columbia TriStar Domestic Television; Sony Pictures Television; Fox Television Studios.

Stuart, M. (Director). (1971) *Willy Wonka & the Chocolate Factory* [Film]. Paramount Pictures.