

UNIVERSIDADE DO RIO GRANDE DO SUL  
INSTITUTO DE LETRAS

Eduardo Lima Lopes

ERGODIC-NARRATIVE GRADIENT:  
the ergodic process as a narrativity reordering element

Porto Alegre

2023

Eduardo Lima Lopes

**ERGODIC-NARRATIVE GRADIENT:**  
the ergodic process as a narrativity reordering element

Trabalho de Conclusão de Curso apresentado como requisito parcial para a obtenção do título de Licenciado em Letras - Língua Portuguesa e Literaturas de Língua Portuguesa, Língua Inglesa e Literaturas de Língua Inglesa pela Universidade Federal do Rio Grande do Sul. Orientadora: Prof<sup>ª</sup>. Dr<sup>ª</sup>. Elaine Barros Indrusiak

Porto Alegre

2023

## **ACKNOWLEDGEMENTS**

This work would not have been possible without the incredible guidance of my advisor. I was unsure if researching games in a Letras course was possible, but as soon as I met Elaine, she immediately took me in as her mentee and provided me with all the necessary tools to bring games into my academic activities.

Games have always been an important part of my life, and it was through them that I met so many of the wonderful people who provided me with the self-confidence and joy that I ever so often need, whether on an online match or over a couple of drinks.

My mother and brother provided me with the chaos and the caring that allowed me to push my limits and endure graduation, even during times of struggle.

And Daniel – with whom I have spent the last seven years – provided me with the love that held me together through this journey.

To all of them, I am extremely grateful, and I make sure to remind them very often.

*And use well what brief  
time you have with one another,  
whilst you can. As mortals do.  
(Goddess of the Night, Nyx)*

## ABSTRACT

This end-of-course paper aims to analyze video games through a narratological perspective, trying to investigate to what extent narrativity defines certain games, whereas others are driven exclusively by ergodic processing, as well as analyzing how the interaction between narrativity and ergodic happens in narrative games. To do so, I will borrow a few concepts of functionalist narratology, whose foundations were proposed by Meir Sternberg (1978), as well as the concepts of cybertext and ergodic, coined by Espen Aarseth (1997). The corpus of analysis consists of the video games *Hades* (2020) and *Her Story* (2015). Though both games tell stories, they stand on almost opposite poles when it comes to the strategies used to drive the player to keep on advancing. These strategies range from exclusively ergodic-driven games to those mostly based on narrativity. By analyzing these two near-antipodes, the study sheds light on mechanisms that balance ergodic processing and narrativity in narrative games. Finally, the possibility of future research involving other video games is raised due to the vast array of elements that could not be explored with such a small corpus.

**Keywords:** Video games. Functionalist Narratology. Cybertext. Ergodic. Hades. Her Story.

## RESUMO

Este trabalho de conclusão de curso tem como objetivo analisar videogames através de uma perspectiva narratológica, tentando investigar até que ponto a narratividade define certos jogos, enquanto outros são conduzidos exclusivamente pelo processamento ergódico, além de analisar como a interação entre narratividade e ergodicidade ocorre nos jogos narrativos. Para tal, utilizarei alguns conceitos da narratologia funcionalista, cujos fundamentos foram propostos por Meir Sternberg (1978), bem como os conceitos de cibertexto e ergódica, cunhados por Espen Aarseth (1997). O corpus de análise consiste nos jogos de computador *Hades* (2020) e *Her Story* (2015). Embora ambos os jogos contem histórias, eles estão em polos quase opostos quando se trata das estratégias utilizadas para motivar o jogador a avançar. Tais estratégias vão desde jogos conduzidos exclusivamente por ergódica àqueles baseados majoritariamente em narratividade. Ao analisar esses dois jogos que estão em polos quase opostos, o estudo lança luz sobre os mecanismos que equilibram o processamento ergódico e a narratividade em jogos narrativos. Por fim, levanto a possibilidade de futuras pesquisas envolvendo outros videogames devido à vasta gama de elementos que não puderam ser explorados com um corpus pequeno.

**Palavras-chave:** Videogames. Narratologia Funcionalista. Cibertexto. Ergódica. Hades. Her Story.

## LIST OF FIGURES

<b>Figure 1</b> – Pong game screen .....	8
<b>Figure 2</b> – How <i>The Legend of Zelda</i> franchise changed from 1986 to 2019 .....	9
<b>Figure 3</b> – Rogue game screen .....	12
<b>Figure 4</b> – Nyx has something important to say.....	14
<b>Figure 5</b> – Searching for “HANNAH” in Her Story .....	15

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>8</b>
<b>2</b>	<b>CORPUS INTRODUCTION .....</b>	<b>11</b>
2.1	HADES .....	11
2.2	HER STORY .....	15
<b>3</b>	<b>THEORETICAL RATIONALE.....</b>	<b>17</b>
3.1	NARRATIVE AND NARRATIVITY .....	17
3.2	CYBERTEXT AND ERGODICS .....	18
<b>4</b>	<b>ANALYSIS.....</b>	<b>21</b>
<b>5</b>	<b>CONCLUSION.....</b>	<b>24</b>
<b>6</b>	<b>REFERENCES.....</b>	<b>26</b>



## 1 INTRODUCTION

As an enthusiast of games, I have been following this industry for almost twenty years. Back in the early 2000s, smartphones did not exist, dial-up internet was slow and expensive, and computers and consoles were a lot less accessible for the average person. Worst of all: actual localized games (that is, translated into Brazilian Portuguese) were very rare.

Not everyone had access to personal devices with games, and sometimes it would be common to borrow a game or two from a friend, or even rent consoles from game stores. LAN houses (or cybercafés) were the favorite place for the average gamer.

Since then, the video game industry has been rising, and it does not seem to be going away anytime soon: Pesquisa Game Brasil (2023) estimates that 70.1% of the Brazilian population has the habit of playing video games, and among those who play, 82.1% consider games as their main form of entertainment.

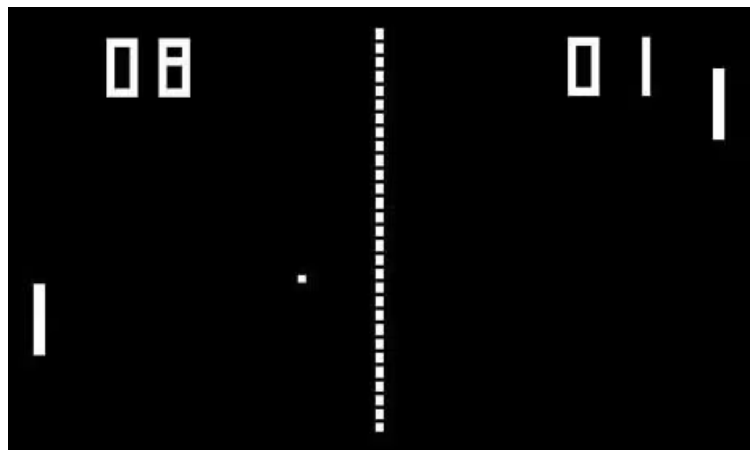
The first video game installments focused on simple and repetitive game mechanics. For instance, the original Pong (1972) game had the player move a bar to bounce a ball back towards her opponent. It was simple but effective.

Games with authentic stories came later, and probably

the first to become considerably popular was Colossal Cave Adventure (1976), but even though it had a plot, it was a text-based game, so the players had to trade visual spectacles for an interesting story. Super Mario Bros. (1985), for instance, had the player run around a colorful world and face dangerous creatures to reach the end just to find out that “the princess is in another castle”. It lacked some depth, even though it was delightful to play.

The content of video games has evolved through the ages: the simple black-and-white 8-bit 2D graphics paved the way for colorful and realistic 3D games; the basic audio design with no more than a few beeps now consists of original soundtracks with all kinds of music genres; the stories where the player defeated enemies to save a helpless princess gave room for stories where the heroine herself is the one destroying the world; and of course, the gameplay possibilities currently have the player facing a myriad of different challenges, ranging from

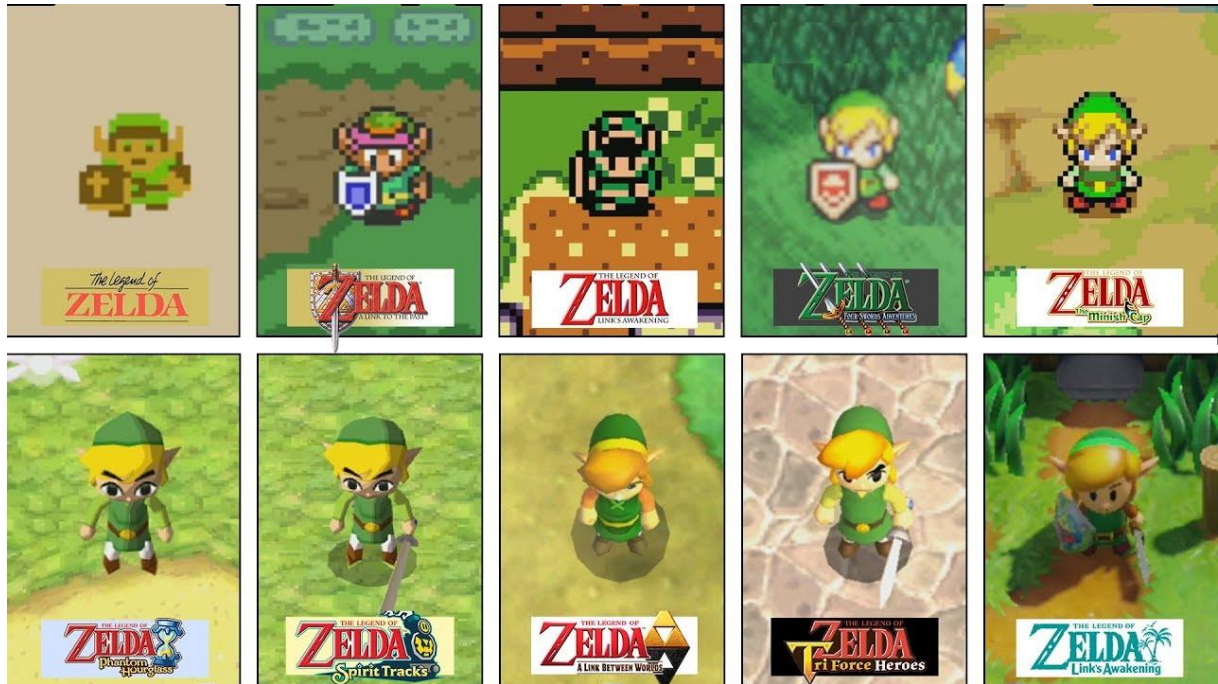
**Figure 1** – Pong game screen



**Source:** Atari (1972)

mechanically complex games that require agile and precise button-mashing to puzzling experiences that mess with the files around your computer.

**Figure 2** – How *The Legend of Zelda* franchise changed from 1986 to 2019



**Source:** ElAnalistDeBits (Youtube)

All of this brings us to a world of ever-changing genres with experimental games mixing all this innovation into unique titles. The evolution surrounding narratives has approached games to literature, as, in one way, literature serves as a model for the creation of plots, and in another, the specificities exclusive to videogames allowed for the invention of new narrative possibilities (which sometimes can be carried over to literature), but games cannot be exclusively analyzed through a literary lens because, even when they are narrative, their elementary traits (sound, imagery, controls, etc.) inevitably differ from literature in a strict sense, but their respective narratives, however, can. Moreover, not all games develop a narrative story, so it would not make sense to try reading into the narrativity of a game, for instance, similar to Pong.

Since video games are not necessarily a narrative medium (hence the previously mentioned examples), my goal is to investigate to what extent narrativity defines certain games, whereas others are driven exclusively by ergodic processing (which refers to the physical act of interacting with a product of media that demands more than simple movements of reading or watching, such as using a controller and interacting with the gameplay mechanics). Therefore, I aim to analyze the balance between these two organizing principles in narrative games. For

that goal, better theoretical instruments and methodologies are required to analyze the connection between the narrative distinction and the non-narrative specificities they offer.

After giving thought to the many options of games available to us, I decided to scrutinize *Her Story* (2015) and *Hades* (2020) for their creativity in designing stories that are both uniquely presented and compelling.

*Her Story* is a detective puzzle game that centers around the investigation of a murder, and how this woman, who was interviewed seven times by the police, is connected to the case. *Hades*, in contrast, is a fast-paced action game set in the mythological underworld of ancient Greece, where the player controls a young man named Zagreus, fighting to escape his father's lair.

This study aims to analyze these two computer games and how their plots unravel as a reaction to the input made by the player, considering narratological theory (Sternberg 1978; 2006) as part of this process, as well as cybertext studies (Aarseth, 1997) to investigate the position and importance of the role played by the player (whom I will refer to as the "user" throughout this study) during a game session.

The second chapter presents the games of my corpus in more detail, describing important development information, the main events of their stories, and further details about gameplay mechanics that will be essential to the analysis.

The third chapter introduces the theoretical framework utilized for this research. Functional narratology plays a prominent role in my analysis, and the concepts of fabula and sujet, narrativity, and the universals of narrative come from the works of Meir Sternberg (1978, 2006). Espen Aarseth's studies (1997) provide the concepts of cybertext and ergodics, which proves to be very fruitful when discussing video games.

The fourth chapter dives deeper into the intricacies of both games' mechanics and stories for qualitative analysis, drawing from the concepts of the aforementioned theories to investigate the narrativity present in both games and how the ergodic processing is key to elevating their narratives.

Finally, the last chapter provides a closing argument for this study, stressing the differences and similarities between both games and how they provide insights into the discussion surrounding narrativity in video games. It also points towards future research topics that could refer to this work as a starting point.

## 2 CORPUS INTRODUCTION

### 2.1 HADES

*Hades* is a computer game developed by Supergiant and released officially in September 2020 on all major digital platforms. Before its full release, the game went through a two-year-long beta phase, available to all players who pre-ordered the game and were interested in participating in the development process (through telemetry, forums, and feedback forms). After the official release, *Hades* was nominated for a plethora of different awards and won a considerable amount of them, including two categories in the 2020 edition of The Game Awards, as well as a Hugo Award of “Best Game”, created exceptionally for the ceremony held in 2021.

Set in the mythological underworld of Ancient Greece, the user controls the protagonist, Zagreus, in his journey to escape from his dark home and find his long-lost mother, Persephone. As a way to defy his father Hades, Zagreus requests aid from his relatives who live in Mount Olympus, the Gods themselves, who gift him with various boons, which will be helpful in order to surpass the underworld’s defense mechanisms. To escape, it is necessary to defeat many enemies in the realm of the dead’s chambers, passing through Tartarus, Asphodel, Elysium and the temple of Styx, until finally reaching Greece, where Hades awaits as a final boss. Defeating him grants the user rewards (needed to upgrade Zagreus’ equipment) and a brief interaction with Persephone, slightly advancing the main plotline. Zagreus cannot survive for long out in the world of the living, so after chatting for a while with his mother, their conversation is interrupted by a sudden illness as the Styx river claims his soul, since he belongs with the dead.

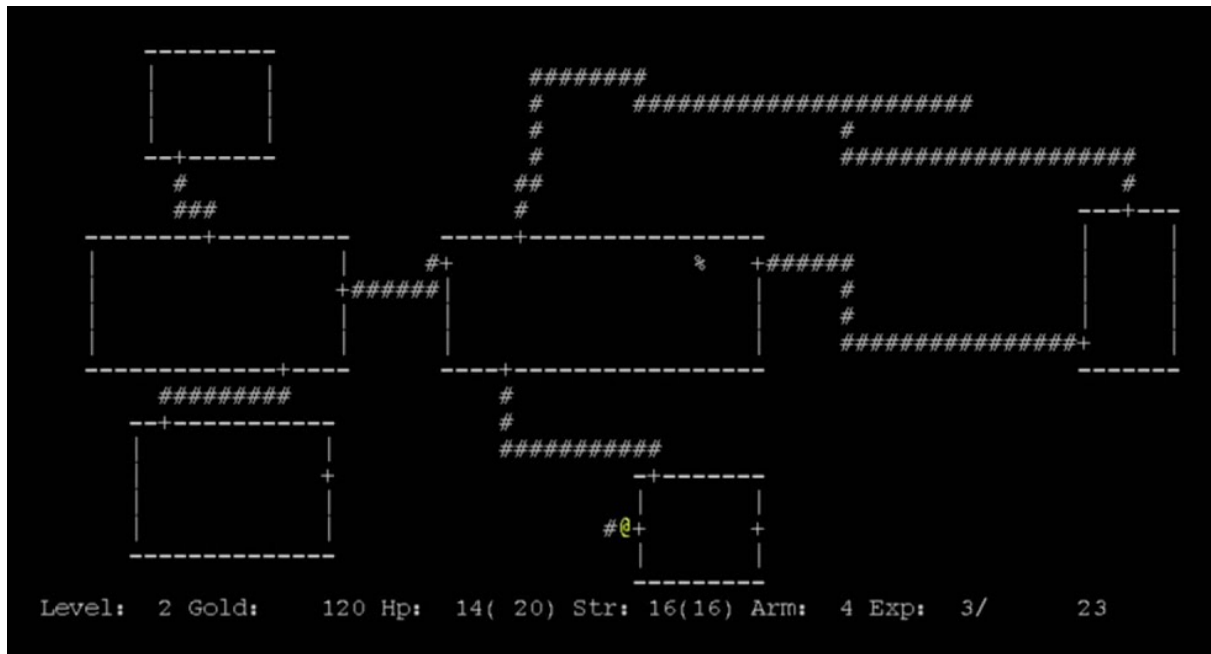
Hades fits in a genre of games that has risen in popularity in the last few years named “Rogue-like” or “Rogue-lite”. As suggested by the name, these games are similar to *Rogue*, a computer game developed around 1980 by Michael Toy and Glenn Wichman for Unix-based minicomputers.

The developers of *Rogue* did not have access to the advanced technology necessary for two or three-dimensional visual spectacles as we do nowadays, so its presentation had to be done exclusively in the ASCII format: all objects, places, and creatures on screen were represented by text characters. The main player character, for instance, was depicted as a “@” sign).

Inspired by text-based adventure games, the main premise of *Rogue* was to allow the player to explore procedurally generated (that is, randomly designed) dungeons, to make every game session unique and unexpected. The items, equipment, and creatures drew inspiration

from Dungeons & Dragons (1974), but the procedurally generated dungeon model inhibited the creation of a narrative: if, on one hand, the game’s dynamic gave rise to infinite combinations and disposition of rooms, the limited technology did not favor the building of a fictional world from which to draw mythos, ethos, and topos (cf. Klastrup; Tosca, 2004) and, consequently, a plot, leaving this “problem” in the hands – or in the imagination – of the player herself.

**Figure 3** – Rogue game screen



**Source:** Toy & Wichman (1980)

Since then, the gaming platforms available underwent an evolutionary process: the huge, heavy, and spacious computers with limited graphic and processing capacity evolved into fast, potent, accessible, and portable devices. And, as a consequence, the computer games also kept up with this progress, securing their spot as one of the most lucrative and influential markets worldwide<sup>1</sup>.

Over time, Rogue’s influence among game developers resulted in the emergence of games characterized mainly by traits that drew directly from Rogue (so-called Rogue-likes) or games that took inspiration in its most important aspects to create something inspired by, but not quite like Rogue (aptly named Rogue-lites).

These categories have their borders a little blurred, and their limits are still discussed around gaming communities, but the consensus is that *Hades* fits into the Rogue-lite category, for, as in Rogue, the player can explore dungeons, defeat enemies, and acquire random rewards

**Source:** Toy & Wichman (1980)

<sup>1</sup> <https://newzoo.com/resources/trend-reports/newzoo-global-games-market-report-2023-free-version>

inside each new chamber, but after finishing an escape attempt (that is, dying to something or defeating final boss Hades), there is an advancement in the overall progression, including upgrades for the equipment, as well as furthering the relationship between the characters. This progression sets *Hades* apart from its peers, after all, there is a creative and technical challenge in making every single dialogue sound natural and meaningful no matter when triggered by the player.

*Hades* relies on a main plot (Zagreus' escape) that, when unable to progress, makes way for optional subplots (such as, for instance, the reunions of Achilles with Patroclus and Orpheus with Eurydice; romantic relationships with either Thanatos or Megaera; Nyx being Zagreus' adoptive mother; Dusa pursuing her career instead of love, etc.). To finish the main storyline (Zagreus reuniting Hades and Persephone), the player needs to succeed in escaping the underworld at least ten times. After defeating Hades for the tenth time, Zagreus will reach Greece and finally get Persephone to ride Charon's boat through the river Styx as the credits roll, returning the Queen of the Underworld to the House of Hades. As expected, the difficulty in escaping is designedly high, causing most players to fail plenty of times before getting even the first victory. In my personal experience, defeating Hades for the first time took seventeen attempts, but this number tends to vary from user to user.

The progression system after each run provides Zagreus with more power (albeit rather slowly), allowing the player to overcome the challenges more easily. Meanwhile, the secondary plotlines keep the player connected to the narrative even when the main plot cannot advance.

Despite the increased difficulty, the game was not designed by the developers to forcefully stop highly skilled players (or those experienced with the genre) from achieving the ten necessary victories in just a few escape attempts, and that poses a challenge for the developers of guaranteeing a coherent and satisfactory experience for players capable of reaching the credits roll after 10 hours, as well as those who, even after more than 30 hours, could not defeat Hades even a single time.

This challenge is what drove Supergiant to create *Hades*' dialogue system that, according to the developers themselves, has more than three hundred thousand words<sup>2</sup>:

- After finishing each run, the user can interact a single time with each of the non-player characters (NPCs) who live in the House of Hades, initiating a brief dialogue.

---

<sup>2</sup> <https://twitter.com/SupergiantGames/status/1343986323007238144?s=20>

**Figure 4** – Nyx has something important to say



Source: Supergiant (2020)

- A dialogue can only ever repeat if all other possibilities of conversation have been exhausted, and only low-priority dialogues will be repeated, such as Hades calling Zagreus “foolish boy” when the player fails many escape attempts repeatedly;
- The game’s code only makes available dialogues “unlocked” by the player. Specific actions are required to allow some interactions to enter the list of possible conversations. For instance, no NPC will ever talk to Zagreus about using the bow Coronacht or the shield Aegis if the player never finishes a run with anything other than the sword Stygius;
- The game's code also organizes dialogues on a priority scale. When the player manages to, for example, defeat Hades for the first time, the majority of the NPCs will receive a priority call to mention this event. Events with a higher priority may override other dialogue calls. If the player manages to reach a breakthrough with a weapon and unlocks that dialogue but then, during the same run, ends up defeating Hades for the tenth time, the dialogue concerning the weapon will likely be pushed over to whenever she finishes another run, as main plot events tend to be of higher priority.

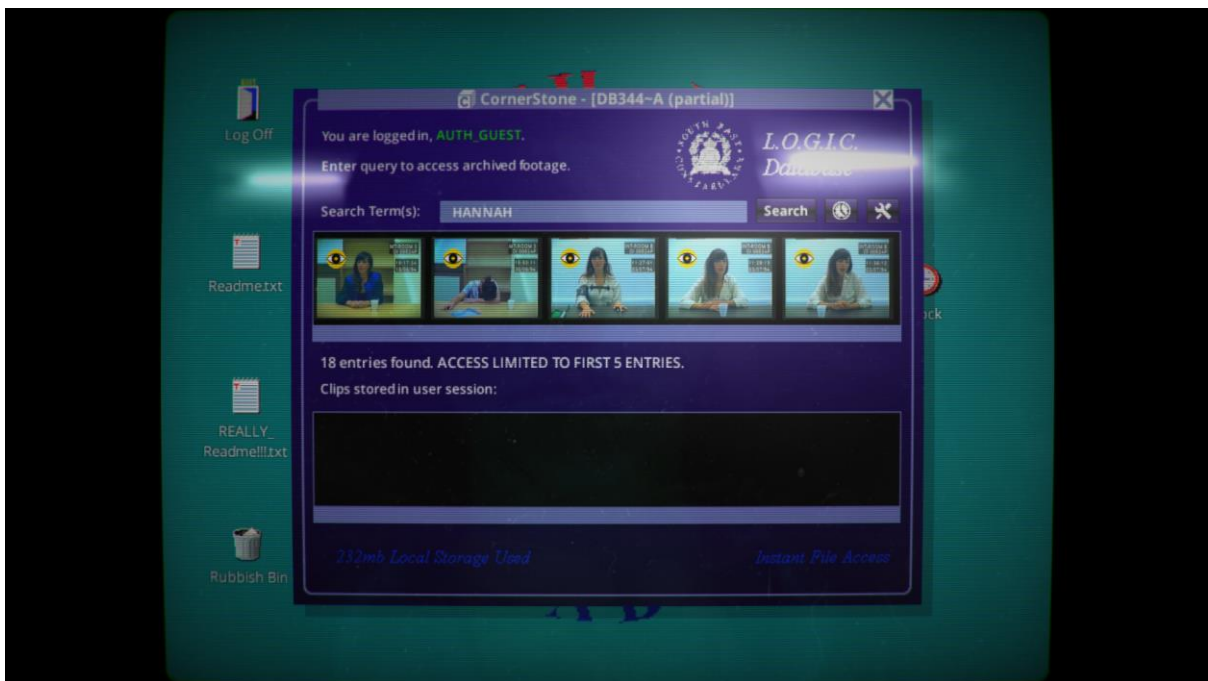
This system allows for each player to have a unique experience that feels logical and reactive to their actions around the game’s world.

## 2.2 HER STORY

*Her Story* is a computer game developed by Sam Barlow and released in June 2015. While the overwhelming majority of games utilize animated 2D or 3D models, *Her Story* subverts the traditional game model, as the graphic component of the game revolves around the recording of a single actress (Viva Seifert) playing the role of the main character. Similarly to *Hades*, *Her Story* was nominated for various game awards, winning two categories in 2015's The Game Awards ceremony, including the "Best Narrative" award.

In *Her Story*, the player's role is to investigate a crime through the reconstitution of the questioning of a woman by the police. The questioning was done and recorded on seven different dates, and all of the depositions are available to the player through the police's database. However, the recordings are cut into small excerpts of just a few seconds that, despite being initially presented in chronological order, can only be searched in groups of 5 through keywords mentioned in the protagonist's deposition, which leaves the player with a semi-random database that hinders the chronological and causal reconstitution of the sequences.

**Figure 5** – Searching for "HANNAH" in Her Story



**Source:** Sam Barlow (2015)

For instance, searching for the name "HANNAH" provides the player with the information that this keyword appears in eighteen clips, but the remaining thirteen cannot be accessed through this word, and it is up to the player to come up with a way to reach these other clips through different keywords. This design choice prevents movements where the user searches for generic terms, such as the conjunction "AND", which results in 108 clips. There



are 271 clips, adding up to a movie of 1 hour and 40 minutes.

Unlike more traditional games, *Her Story* – even though it provokes the player to reconstitute the narrative indicating the keyword “MURDER” as the first research possibility – does not count with a final goal in the interface (such as a quest list or a mission goal tab) and the only motivation that may incite the player to explore these disordered reports is the interest in the plot, considering that the game mechanics are limited exclusively to advance and move the investigatory process.

In Chapter 4, I will demonstrate how the ergodic processing is pivotal to progressing the narrative in both games presented here.

### 3 THEORETICAL RATIONALE

#### 3.1 NARRATIVE AND NARRATIVITY

H. Porter Abbot (2011) put together an overview of the history and development of the concept of “narrativity” to demonstrate that the theoretical discussion surrounding the term is still under debate and is sometimes used with conflicting meanings by different scholars. In general, he explains that “‘narrativity’ is still commonly used in two senses: in a fixed sense as the ‘narrativeness’ of narrative and in a scalar sense as the ‘narrativeness’ of a narrative, the one applied generally to the concept of narrative, the other applied comparatively to particular narratives.” (2014, p. 1)

Starting from the basics, Meir Sternberg, (1978) recovers the concepts of *fabula* and *sujet* from the Russian formalists. The former he defines as “the chronological or chronological-causal sequence into which the reader, progressively and retrospectively, reassembles [the events]”. (1978, p. 8), while the latter is “the actual disposition and articulation of [the events] in the particular finished product, as their order and interrelation, shaping and coloring, was finally decided on by the author.” (1978, p. 8).

Another point raised by Sternberg is that “the literary text may be conceived of as a dynamic system of gaps” (1978, p. 50), that is, throughout the reading process, the reader faces a series of expositional gaps that emerge due to the arrangement of the *sujet* (which commonly subverts the chronology of the *fabula*), surfacing questions such as “What is happening or has happened, and why? What is the connection between this event and the previous ones? What is the motivation of this or that character?” (ibid.). These gaps are not always “filled”, because “Different gaps or systems of gaps may, however, vary in several important respects: some can, for instance, be filled in almost automatically, while others require conscious and laborious consideration; some can be filled in fully and definitely, others only partially and tentatively; some by a single, others by several (different, conflicting, or even mutually exclusive), hypotheses” (1978, p. 50)”.

For narrative genres that presume more than a single *sujet* (such as video games), expositional gaps play a prominent role in providing different experiences to each player, as the suspicions and hypotheses will vary from reader to reader.

To precisely define narrativity, Sternberg’s (2006) definition puts together *fabula*, *sujet* and the expositional gaps:

“Narrativity lives in the dynamic interplay between the told and the telling, the represented and the communicative event-sequence. Three master effects arise in the process, all freely composable by different narrative texts and each possibly raised to

dominance. One is “suspense,” or the dynamics of prospection, issuing from our uncertainty about some future development: as when we progressively construct and often adjust divergent scenarios regarding the outcome of a clash between agents, pulls, voices, ideologies. Another is “curiosity,” or the dynamics of retrospection, keeping our minds engaged with some past mystery while we go forward. The third universal is “surprise,” or the dynamics of recognition, forced on us by the belated disclosure of a gap in continuity and knowledge, so as to impel a repatterning of all that has intervened. This trio accordingly constitutes and controls the narrative process as such, with its peculiar generic movement between the times of happening and telling/reading. (STERNBERG, 2006, p. 129-130)”

According to Neitzel, “[games] may also contain elements typical for narratives: actions, events, characters, and a setting. If these elements are arranged in a story-like order, a computer game possesses narrativity” (2014, p. 1). This is the case of Hades and Her Story, as the analysis below will demonstrate. Both games are characterized by these elements pointed out by Neitzel as indication of narrativity. However, the presence of such elements in a game does not entail a dominance of narrativity. In other words, even if a game comprises stages that unfold along a chronology, the existence and elaboration of a story may not be its *raison d’être*, in which case the game will be ill-suited for a narratological analysis. The first installments of Pac-Man (1980) and Tetris (1985) provide very good exemplification of this distinction. Though a player might think of a story to accompany the moves of Pac-Man within its maze, such fictionalization is not part of the game. Players are encouraged to keep playing only by the will to score points and access more difficult levels. Likewise, the main goal of Tetris is to complete horizontal lines by moving the pieces into the playing field. There are no characters, settings, or events, and although there are actions, those are performed exclusively by the player, who is an element from the outside.

### 3.2 CYBERTEXT AND ERGODICS

The popularization of personal computers and the broadening of access to the internet gave room for the uprising of new textual forms, such as the hypertext (highly popular in Wiki style pages, which draw inspiration from the well-known Wikipedia [2001] website), where the user is free to navigate through different pages by clicking on “links”, usually colored blue and underlined. Materials like hypertext differ strongly from more traditional formats (the printed literary novel, for instance) because they demand a significant change in the role of the reader. For example, hypertext, games, interactive movies, and visual novels require external action from the user, consequently fitting a genre of texts called “cybertext”.

In the introduction of his book “Cybertext: Perspectives on Ergodic Literature” (1997), Espen Aarseth claims that the concept of cybertext “focuses on the mechanical organization of

the text, by positing the intricacies of the medium as an integral part of the literary exchange” and “also centers attention on the consumer, the user, of the text” (1997, p. 1). Unlike conventional texts, the cybertextual process involves a physical movement, a non-trivial effort by the user to navigate the text. Aarseth will then denominate this effort as “ergodic” and refer to these kinds of texts as “ergodic texts”.

The concept of cybertext was devised to approach texts with a different dynamic as opposed to traditional literature. “Cybertext, then, is not a ‘new,’ ‘revolutionary’ form of text, with capabilities only made possible through the invention of the digital computer. Neither is it a radical break with old-fashioned textuality, although it would be easy to make it appear so” (ibid, p. 18). The ascension of digital media is not what created cybertext, as the medium is not responsible for providing a text with ergodicity. For instance, a traditional novel (such as Jane Austen’s *Pride and Prejudice*) will not be considered ergodic even if a person reads it through a PDF file or on a Kindle device. Furthermore, the cognitive aspects that surround the reading process are not disregarded when it comes to ergodic texts, as such texts can be as sophisticated and complex as traditional literature. Therefore, the effort Aarseth refers to is the mechanical movement that is required from the reader to explore a text. In his words, “the different ways in which the reader is invited to ‘complete’ a text and the texts’ various self-manipulating devices are what the concept of cybertext is about.” (1997, p. 20)

Moreover, just as not every literary text is ergodic, not all cybertext is necessarily narrative. Cybertexts might have a plethora of different uses and formats that do not include narrativity, but when a text has narrativity and is ergodic, then this text is an ergodic narrative. In such cases, the user is required to take control over the arrangement of the sujet through the movements predicted and allowed by the text. As with literary narratives, these movements will create expositional gaps that generate the universals of narrative (curiosity, suspense, and surprise). These three master effects are essential to keep motivating the reader, allowing her to choose (and avoid) certain paths that may (or may not) fill the gaps.

Aarseth also problematizes the concept of “reader”, claiming that “a reader, however strongly engaged in the unfolding of a narrative, is powerless” (1997, p. 4), that is, she does not have the option to control the development of a narrative, and will always be limited to her spectator role. As a way to stress the difference, Aarseth takes over the word “user” to refer to the reader of ergodic texts, because the role of the user will not be a trivial act of turning pages and glancing, but an act of manipulating the material through extranoematic (occurring outside the confines of human thought) movements. This does not undermine the interpretive and cognitive processes this role may entail, and this distinction is only important when referring to

the physical action of manipulating cybertext, which is something that traditional media forms do not have.

Examples of ergodic texts include largely digital media products, such as video games, hypermedia, visual novels, etc. There are plenty of media products that merge the narrative characteristics of their traditional counterparts with ergodic elements to create a new experience. Interactive movies such as *Black Mirror: Bandersnatch* (David Slade, 2018) or *Carmen Sandiego: To Steal or Not to Steal* (2020) are sometimes considered to be very similar to games for having an ergodic element that affects the reconstruction of the fabula directly, but the process of interaction with these elements is usually limited to the act of selecting a button to proceed in a specific way. In other words, the presence of ergodic is clear, but the effort made by the user is relatively smaller when compared to video games.

Moreover, ergodic texts are not exclusive to the digital medium, and Aarseth mentions texts such as the *I Ching* (the Chinese Book of Changes). Other famous examples in printed media include *Dungeons & Dragons* (Gygax e Arneson, 1974), a rules handbook whose user is expected to navigate the text to set up a tabletop role-playing game; *Hopscotch* (Cortázar, 1963), a novel in which the author provokes the user by not only suggesting two reading orders but also mentioning that “in its own way, this book consists of many books”; and *Cain’s Jawbone* (Mathers, 1934), a mystery puzzle that challenges the user to correctly rearrange all of the one hundred pages and also find out the names of the murderers and the victims. The first includes a fictional world but is not meant to be read as a novel, while the last two are great examples of ergodic literature, where the reconstruction of the fabula is the goal, but the arrangement of the sujet is completely at the user’s hand.

#### 4 ANALYSIS

Considering the previous exposition, it seems we have elements to affirm that both *Hades* and *Her Story* are narrative games, but in contrast to the more traditional (and, consequently, linear) narrative model in games, both offer an experience of exploration highly mutable, after all, each user will guide her choices through individual reasons. This variability allows each playthrough to be unique, as the reconstruction of the fabula will emerge from the ergodic movements carried out by the user.

In *Hades*, the user inputs cause various reactions in the exposition of events, but these inputs are not necessarily motivated by the narrative exposition. For example, there is an alternate form of the Coronacht bow, the Aspect of Rama, that can only be unlocked when the goddess Artemis teaches Zagreus the waking phrase, but the conversation that triggers this revelation can only occur after the user talks to the goddess wielding the bow, otherwise, Artemis would not know that Zagreus has the weapon, and would not mention the hidden aspect out of nowhere.

What happens in situations like these is a transactional process between narrativity and ergodic, where the user utilizes a mix of her knowledge of the plot with her understanding of the game mechanics to unlock a new power-up because as soon as she knows that Artemis is the goddess of the hunt and that the dialogues react to the choices of equipment, she has control over the possibility to search for this interaction directly, which she can do so by equipping Zagreus with Coronacht before an escape attempt and searching for chambers marked by the Green bow and arrow that represents Artemis.

**Figure 5** – A door indicating Artemis' chamber



Source: Supergiant (2020)

Furthermore, taking, for instance, an ideal user, *Hades* inserts the mention of power-ups (such as the aforementioned Aspect of Rama) into various dialogues, but there is not a single element outside the narrative that explains a step-by-step process of unlocking these items, so the only way the user would be able to reach them would be to pay careful attention to the narrative. Without an external mechanism to guide the player into fulfilling a list of prerequisites (such as a quest list), the three master effects of narrative end up as the only possible way to bring the user towards that goal.

During the reading of a traditional novel, the reader usually goes through the three master effects (curiosity, suspense, and surprise), but her reading experience is always defined by the sujet predetermined by the author. The user of an ergodic narrative text will also experience these effects, but actively and consciously, making it possible to identify a higher relevance (or frequency) of these dynamics, allowing for the master effects to become an active agent. In other words, the user not only readjusts her expectations when confronted with the unfolding of the narrative but also plans her future actions based on the intention of fulfilling this expositional gap. In Aarseth's words, "The tensions at work in a cybertext, while not incompatible with those of narrative desire, are also something more: a struggle not merely for interpretative insight but also for narrative control: 'I want this text to tell *my* story; the story that *could not be* without me'". (1997, p. 4)

Of course, despite being able to identify the movements interconnecting the narrative to the gameplay, not always will the user be attentive and follow the expectations of the developers. The nature of action games – which is the case for *Hades* – presupposes a hectic and intense game style of gameplay, and this ergodic value can stand out against the presence of narrative elements. Therefore, a person can, when playing *Hades*, do it exclusively for its elements intrinsic to gameplay (the combat style, the various power-ups, achievements, etc.) or even for factors external to the creation of the game (community challenges, speedruns, mods, etc.). Furthermore, users less interested in the exploration process can effortlessly resort to countless tutorials available on gaming news<sup>3</sup> websites<sup>4</sup>; they can use wiki pages<sup>5</sup> created by fans of the game; or even write a post<sup>6</sup> on the game's Reddit page to request other players for aid.

---

<sup>3</sup> [https://www.ign.com/wikis/hades/How\\_to\\_Unlock\\_All\\_Hidden\\_Aspects](https://www.ign.com/wikis/hades/How_to_Unlock_All_Hidden_Aspects)

<sup>4</sup> <https://gamerant.com/hades-how-to-unlock-hidden-weapon-aspects-guide/>

<sup>5</sup> [https://hades.fandom.com/wiki/Infernal\\_Arms#Hidden\\_Aspects](https://hades.fandom.com/wiki/Infernal_Arms#Hidden_Aspects)

<sup>6</sup>

[https://www.reddit.com/r/HadesTheGame/comments/sz1f72/question\\_about\\_unlocking\\_hidden\\_weapon\\_aspects/](https://www.reddit.com/r/HadesTheGame/comments/sz1f72/question_about_unlocking_hidden_weapon_aspects/)

*Her Story*, on the other hand, is an investigation game without a single action element in its gameplay mechanic. The ergodic processing here revolves around searching for keywords that result in the reordering of the narrative itself – and if that is properly achieved, the reconstitution of the fabula. The user is only induced to think about productive keywords by carefully observing the narrative. Starting the game, the search box presents the keyword “MURDER”, which reveals scenes where the protagonist mentions the death of her husband. From there onward, the user is provoked to unravel the events connected to the crime.

At first glance, *Her Story* appears to drop the user in an ocean of possibilities guided solely by luck, whereas all the words said throughout an excerpt might be searched, so even random tries can result in the discovery of new clips. The freedom to search for any word is the main element that offers different experiences to different users.

Considering the experience of an ideal user, the various clips of the seven police interrogations with the protagonist will be inevitably encountered outside chronological order, thus the developers made it so that almost every single recording would include a complete expositional portion of the story where the protagonist is talking about a particular subject. These small excerpts open up the possibility of identifying other themes or subjects to be searched, such as the names of other characters, places, or even certain events.

So, even if the user in *Her Story* wants to lead the way herself, it is possible for the keywords she considers good options to result in irrelevant clips (or no clips at all), and vice-versa. Moreover, the ergodic value of *Her Story* guarantees a unique trait to the narrative because the unpredictable nature of this investigatory process reorders each of the three master effects according to the user's playthrough. Someone who, for whatever reason, encountered the clips where Hannah (1) reveals being gifted a mirror by her husband, (2) says that she did not like the gift because he gave an exact copy of the mirror to her twin sister, and (3) reveals killing her husband with a fragment of a broken mirror, will slowly be able to create her hypotheses of the events chronologically. While a different player who ends up immediately discovering (3) is hit with a piece of extremely important information that is chronologically final, this does not mean that events (1) and (2) will be less relevant, as the user will, instead of asking herself “why is the mirror important?” or “what will she do with the mirror?”, might consider the questions “where did the mirror come from?” and “why did she kill her husband?”.

Therefore, *Her Story* creates a way of telling that does not care about chronology because the only way the user can go is forward. Thus, even if the user witnesses the events in a chronologically chaotic way, she is still able to make sense of them to create a hypothesis and guide herself through the story.



## 5 CONCLUSION

Following the discussion provided by this study, the question about how narrativity defines certain games revolves around the knowledge that, like most media products that unfold along temporal axis, games can make use of narrativity to create complex fictional worlds, offering users a more immersive and engaging experience. Although not always narrative, games will always be considered cybertext, as the ergodic logic is the basis of video games, because they require a user to take on the controller.

Regarding the interaction between narrativity and ergodic in narrative games, we have seen that in ergodic narratives, all of the ergodic movements will, in one way or another, outline the way of the narrative. This means that the user must actively try to explore the narrative to reconstruct the fabula, and, in *Hades*' case, the user must successfully surpass the non-narrative challenges to advance in the main plot.

As previously stated, the development of narrativity in both games is not consolidated without the presence of the ergodic movements thoroughly described, but what differs them is how interdependent narrative and ergodic are. In games like *Hades*, the user is free to ignore every new unfolding of the sujet, being able to base her attitudes on the desire to overcome challenges and defeat enemies, which make up the more energetic aspect of gameplay. This means that the reconstruction of the fabula might be disregarded if the user so wishes.

In other words, even when emptied of narrative, *Hades* is still cybertext and offers many possibilities for exploration and, as a consequence, entertainment. *Her Story*, on the other hand, provides the user with tools to find a way forward only when she pays proper attention to the narrative movements, and if for any reason the user loses interest in the plot, there will be no reason to perform the necessary ergodic movements, which end up as a nuisance instead of a motivation, and there is no reason to play a game that does not offer any entertainment at all.

Therefore, in cybertexts, narrativity can only be brought to a priority position if the combination of ergodic and narrative creates curiosity, suspense, and surprise, stimulating the user to follow the plotlines into unraveling the story. If this combination does not result in any of the master effects, the text must rely on something else to keep the user's attention. A game such as *Her Story*, for instance, needs to captivate the user through its narrative, and when it fails to do so, there is no other element present to convince the user to keep playing.

*Hades* and *Her Story* are games that, when considering the concepts of narrativity and ergodic as essential, are positioned as near-opposites within an ergodic-narrative spectrum. *Her Story* relies entirely on its ability to tell a story, whereas *Hades* allows the user to disregard its

narrative and focus solely on the development of the gameplay aspects. This work is meant to shed light on this difference to point out that there are other games that rely on the combination of ergodic and narrativity to create an immersive experience where one might be more (or less) meaningful than the other, and the presence of such elements might vary from game to game, which suggests that the balance between these two driving mechanisms of cybertext ranges from exclusively ergodic to narrativity-driven games.

The scope of this study did not include games with narratives that offer a single sujet (and thus, have a linear plot) nor games that foresee the presence of multiple endings, but I strongly believe that the theoretical framework offered here would be of value for the investigation of such games, as functionalist narratology has proved to be very well complemented by the cybertext studies when it comes to analyzing games. I also believe that the study of other ergodic products of media would benefit from such theories.

## 6 REFERENCES

- HADES. San Francisco. Supergiant, 2020. Available at: <https://www.supergiantgames.com/games/hades/>. Accessed 30 Jan. 2024.
- BARLOW, Sam. Her Story. 2015. Available at: <https://www.herstorygame.com>. Accessed 30 Jan. 2024.
- PESQUISA GAME BRASIL. 10 ed. São Paulo, 2023. Available at: <https://www.pesquisagamebrasil.com.br/pt/edicao-gratuita/>>. Accessed 30 Jan. 2024.
- ElAnalistaDeBits (Youtube). The Legend of Zelda | Classic View Games HD Evolution | 1986 - 2019. Available at: <https://www.youtube.com/watch?v=AOvCsR2BpLU>>. Accessed 30 Jan. 2023.
- KLASTRUP, Lisbeth; TOSCA, Susana. Transmedial Worlds – Rethinking Cyberworld Design. In: Proceedings of the 2004 International Conference on Cyberworlds. Computer Society, 2004.
- PORTER, Abbot H. Narrativity. In: *the living handbook of narratology*. Hamburg. Hamburg University. 2014 Available at: <https://www-archiv.fdm.uni-hamburg.de/lhn/node/27.html>> Accessed 30 Jan. 2024.
- NEITZEL, Britta. Narrativity of Computer Games. In: *the living handbook of narratology*. Hamburg. Hamburg University. 2014. Available at: <https://www-archiv.fdm.uni-hamburg.de/lhn/node/127.html>> Accessed 30 Jan. 2024.
- AARSETH, Espen J. Cybertext: Perspectives on Ergodic Literature. Baltimore. JHU Press, 1997.
- STERNBERG, Meir. *Expositional Modes and Temporal Ordering in Fiction*. USA: The Johns Hopkins University Press, 1978.
- \_\_\_\_\_, Meir. Telling in Time (III): Chronology, Estrangement, and Stories of Literary History, *Poetics Today*, Vol. 27, No. 1, 1 March 2006, pp. 125–235. Available at: <https://doi.org/10.1215/03335372-27-1-125>> Accessed 30 Jan. 2024.