



# Possible Worlds theory and its application to videogames:

## A case study of *Life Is Strange*

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**Abstract**— Dontnod Entertainment's episodic adventure video game, *Life Is Strange* got published for PC, PS4, PS3, and Xbox One in 2015. The nonlinear narrative line of *Life Is Strange* denotes similar narrative strategies employed by forking path narrative for projecting different possible worlds. Exploring the literary narrative potential of this video game can help to clarify the dispute between ludology and narratology. Benefiting from Ryan's theory of Possible Worlds, this study displays the literary narrative potentiality of this video game. Based on Ryan's theory, a fictional work is considered like a universe that projects different possible worlds. Analyzing one of the major choices of the video game, the paper explains in what ways the player's decisions can alter the storyline. The paper concludes that the multi-layered narration of *Life Is Strange* allows the player to create different game worlds. The active role of the player in the process of narrating the story indicates that in *Life Is Strange*, literary aspects can play an essential role and form the core of the video game.

**Keywords**— *Video Game, Possible Worlds Theory, Life Is Strange, Narrative, Fiction.*

### I. INTRODUCTION

Traditionally, books were the leading ways of telling a story; later, cinemas in the twentieth century introduced itself as a medium for storytelling. From the beginning of the 1970s, video games have played an indispensable part in the storytelling and entertainment industry [1]. Video games as a new medium are constantly flourishing and developing in all its aspect. The possibility of the player's interaction with the story has brought several new and distinct forms of storytelling that are difficult, if not impossible, to represent in the previous media [1].

There is a debate about the fictionality and the literary potential of video games, between narratology and ludology. Narratology claims that video games should be regarded for their stories as a narrative medium. For example, Murray as one of the representatives of the narrative approach to games states that the computer as a medium due to its interactive features (including video games) is pointing to a new narrative form and mode whereas its potentials have not yet been fully identified [2]. On the other hand, the most basic idea of ludology is

contrary to the belief of narratology. Gonzalo Frasca introduced ludology to computer game studies by proposing it as a new methodological approach for the study of games and game structures [3]. Ludology is based on the belief that the only thing that game studies must be focused upon is just rules, structure, and mechanics of gameplay. As one of the leaders of ludology, Eskelinen states "Games are just games, not narratives." Sometimes games may be dressed in narrative costumes, but stories are just a matter of beauty and trivial decoration for games [4].

It should be noted that, as in other media in which not all works have the same artistic value, not every video game can be considered an artistic work. The video game industry is still developing and progressing in all aspects and has many different genres [5]. Espen Aarseth, as one of the leading figures in ludology, states that in a ludo-narrative analysis the best way to test a model is to introduce new data and find out if this fits the model or not [6]. In other words, to resolve the disagreements between narratologists and ludologists, narrative theories and models should be applied to each video game separately to find out whether it could be counted as an artistic narrative work or not. This has encouraged the present study to focus on *Life Is Strange* (2015) [7] as a case study, and investigate its narrative structure.

*Life Is Strange*, an episodic adventure video game, has been developed by Dontnod Entertainment (published by Square Enix) in 2015. It has received many positive reviews and scored 85/100 on game consoles (PlayStation 4 and Xbox One) and 83/100 on PC [8] in Metacritic. The critically acclaimed and award-winning (75 awards) video game *Life Is Strange* found an essential place in the market for itself. Up to 2017, the number of copies sold has reached more than 3 million [9].

Apart from its popularity, *Life Is Strange* has some technical narrative features that have made it unique. The key element of gameplay in *Life Is Strange* is its nonlinearity of narrative. According to Dontnod, this video game revolutionizes the concept of the narrative of video games. The player with choices and consequences can go back in time to influence the past, present, and future [10]. The game world(s) in this video game



depends on the player's decisions. Video game's major choices have a significant impact on character relationships and storyline [11]. Since choices can alter the storyline from moment to moment the player must care about his/her decisions. Therefore, this narrative feature of gameplay provides the basis for the study of the narrative structure of the *Life Is Strange* and its impact on the game world(s) from the perspective of Possible World theory.

To date, none of the conducted researches on this video game has been based on the theory of Possible Worlds, but there have been some studies discussing the relationship between Possible Worlds theory and digital media. Bell (2010) indicates that Possible Worlds theory is an applicable methodological framework for the analysis of ontological self-consciousness of storyspace hypertext fiction [12]. Within game studies, Juul (2014) [13] and Van Looy (2005) [14] by the use of the theory of Possible Worlds investigate the player's relationship to and within the game world [15].

The video game's multilayer narrative and its impact on the game world(s) from a literary approach have not yet been addressed and this study attempts to fill in the gap. Looking at *Life Is Strange* from a narratological perspective with a focus on the multiple options it offers, it tries to investigate the literary values and elements of the video game. The reason this video game is regarded as a case study is because of its narrative structure which is unprecedented in the video game industry.

This paper investigates the levels and structure of narrative in *Life Is Strange* to arrive at a more in-depth insight into the potential capacities of fictionality in the video game. Using the narratological approach and benefiting from Marie-Laure Ryan's narrative theory, particularly her theory of Possible Worlds, this research focuses on the unique narrative features of the video game. By applying the theory of Possible Worlds to *Life Is Strange*, the paper aims to display the literary narrative potentiality of this video game and its impact on the creation of the game world(s). The article explains Ryan's Possible Worlds theory and its relationship to narrative fiction. Then the narrative structure, particularly the choices, will be analyzed through the lens of the adopted theories. Lastly, the paper argues that the mechanics of the game allows the player to create different game worlds.

## II. THEORETICAL FRAMEWORK

### A. Possible Worlds Theory

Possible Worlds theory is one of the theories that has contributed to the study of the ontology of literary fiction. The concept of possible worlds (PW), an adaptation of a Leibnizian philosophy, was initially developed by the philosophers of analytic school as a model to formulate the semantics of the modal operators of necessity and possibility [16]. Since the 1970s, a group of literary theorists (e.g., Dolezel, Eco, Pavel, Ryan,) used Possible Worlds theory in literary studies and narratology to deal with the ontology of literary fiction and the way different narrative possibilities can be conceived inside the

fictional world [17]. The ontology of postmodernist fiction has meant that PW theory, or at least particular concepts from it, is often deployed to analyze, theorize, or categorize postmodern texts [15]. Ryan, in her seminal work, *Possible Worlds, Artificial Intelligence, and Narrative Theory* (1991), develops the idea of a semantic domain consisting of a plurality of worlds into a theory of narrative conflict, which led to an account of the forward movement of the plot [18]. Ryan believes that fiction is a mode of travel into textual space, while the narrative is travel within this space's confines. She states that the system of reality that forms a modal system comprises of a central world (actual world) while encircled by satellite worlds (alternative possible worlds). Also, she signifies that the Textual Universe, as an image of the system of reality, is a modal system projected by text [18]. She defines storyworlds as "modal universes" consisting of an actual world, which she calls the textual actual world (TAW), surrounded by the private worlds of character (Textual Possible worlds) [15]. The character's mental processes (dream, wish, desire, etc.) can bring these alternative textual possible worlds into fulfillment [15].

Ryan in *Possible Worlds* (1991) begins her approach with the premise that when readers read a fictional text, they "recenter" themselves into a different, fictional modal system [15]. Recentering as the constitutive gesture of fictionality, sends the reader from the real world to the nonactual possible world created by the text [19]. Recentering describes in what way readers become immersed in a fictional text. While reading a fictional work, the reader relocates him or herself within the textual universe of fiction and regards it as actual. This recentering pushes the reader into a new system of actuality and possibility in which, the reader finds out a new actual world, and a variety of APWs circling around it [18].

Ryan does not limit his theory to novels and short stories and addresses any medium. She states that recentering can happen to any type of users, such as a reader, a spectator, or even a player when s/he encounters any fictional narrative. While reading, the user, by the act of making-believe, recenters to the alternative possible world as the actual world [15]. As a result, the concept of recentering can be applied to and explored in a wide range of media regardless of which medium is experienced and which modes are used to construct fictional worlds. Van Looy moves from textual fiction to digital media; adopting Ryan's PW theory and her concept of recentering, he introduces "virtual recentering" for the time of interacting with digital space. Van Looy explains that immersion is imminent while playing a computer game or interacting with an installation. In the process of virtual recentering, for the player (user, interactor, and reader regarded as "player"), there is a movement into a virtual setting in like manner a reader glides into the fictional world. It designates that recentering is basically a cognitive-based concept that is semantically neither independent from nor exclusively determined by language [14].



### III. DISCUSSION

Since the main goal of this paper is the analysis of the narrative structure of *Life Is Strange*, it seems a summary of the video game is needed for a better analysis. The story takes place in Arcadia Bay (the fictional town), Oregon, and is narrated by the game's protagonist, Maxine Caulfield. Max, an 18-year-old photography college student, witnesses her classmate Nathan Prescott murdering a girl. Suddenly, Max finds her ability to rewind the time and save the girl's life, who later turns out to be her old friend Chloe. By discovering the power of time rewinding, Max can change the course of events. Max experiences a vision of the lighthouse of Arcadia Bay being destroyed by a horrible storm. It turns out that the vision is actually referring to an event in the future in which the town is going to face a destructive hurricane, and Max must stop it. As much as Max tries to find out the implications of her power, she gradually realizes the consequences of her time and space interference. At the end of the story, Max gets to the lighthouse with Chloe. They face the fact because Max has used her time-traveling power, the town is on the verge of destruction by a storm. The only way to save the city requires Max to go to the first place and let Chloe be murdered by Nathan. The final choice of the gamer that specifies the ending of the story is either to sacrifice Chloe's life to protect Arcadia Bay or to let the storm destroy the town.

The perspective of gameplay in *Life Is Strange* is third-person, and the player can only control Max's character. Based on the descriptions previously provided about Ryan's model the player before starting the video game is in his actual world (AW). This actual world, where he/she is located, is at the center of his/her system of reality surrounded by alternative possible worlds. From the moment of starting the video game by the process of virtual recentering the player moves to the world of *Life Is Strange* in which the story is going to be followed. Here, the video game itself is the Textual Universe that like a text projects a modal system. This modal system brings its own actual and alternative worlds. As Ryan explains, the recentering pushes the reader into a new system of actuality and possibility [18]. The fictional town of the video game, Arcadia Bay, becomes the actual world for the player which based on Ryan's model should be named Textual Actual World (TAW).

In a textual universe the alternative possible worlds around the textual actual world are called textual alternative possible world (TAPW). TAPWs can be textually presented as the mental constructions of TAW's habitants [18]. There are many inhabitants in the TAW of the video game with whom the player can interact. For instance, Max's best friend Chloe and her parents Joyce and William Price and Max's classmates, Kate Marsh, Nathen Prescott and Victoria Chase who are some of significant characters of the video game. For every character there are some TAPWs; however, since the player can only control the actions of Max's character, this study is limited to the different possible story worlds that Max can bring to reality.

In Ryan's PW theory, possible worlds, around AW can be produced through mental activities like dreaming, imagining,

foretelling, promising, or storytelling. In *Life Is Strange* some of these activities can happen to the player through choices and moments of decision making. As a choice-based video game, the player in *Life Is Strange* makes a decision (narrative or action) by choosing between two or more options. These decisions are classified into three types. Primary decisions have a butterfly effect and are often decisions between two significant courses of action that affect crucial moments in the narrative. Secondary decisions are usually more enigmatic or seem more innocuous while still having consequences. Tertiary decisions are the self-reflexive decisions that allow the player to determine Max's personality. Whatever choice the player makes becomes what Max feels or wants [20].

Plot, or narrative action, involves the movement of worlds within narrative universes. Any occurrence of a change in the TAW can bring the private worlds of character closer to or farther from fulfillment. [15]. Chrysalis, Out of Time, Chaos Theory, Dark Room, and Polarized are the five episodes of the video game. Each episode, with its events, forms part of the overall story. The player in every episode faces some primary choices with multiple options. Selecting any of these options will affect the storyline in the next episodes. This means that choosing each option can effectively alter the condition of TAW. As mentioned above, these sets of choices which vary depending on the mentality of the players can actualize the textual alternative possible worlds (TAPW). The analysis of the primary choices of the video game demonstrates how the player can actualize the TAPWs of Max's character.

This article has taken the third critical choice offered to the player in the "Dark Room" episode as an example to analyze the narrative structure of the video games. This choice creates three leading paths with different endings. It is one of the most extended choices that the player faces in the video game [21]. In this section, Max and Chloe go to Frank to gather some evidence. During the negotiation with Frank, player's chosen options lead to: A) Chloe kills Frank and his dog, B) Chloe wounds Frank by shooting his leg, C) No one gets hurt [21].

Player's selection of following dialogue options leads to the worst ending (Frank's death) path A. "You already did - This option will make Frank guess that it was Max who broke into his trailer. The situation will make Chloe kill Frank and his dog. As shown in Table 1, choosing this path ends in the removal of Frank's character from the rest of the story. Given that the player can rewind the time, making this decision causes the character to commit a crime and feel guilty. Path B (Frank is wounded) can be actualized through choosing the following set of options: "Watch your mouth", "No Weapons", "Close the door". Although by choosing this path Frank survives, he will no longer be Max's friend in the rest of the story. Choice C in which no one gets hurt offers these options: "Watch your mouth", "close the door", "I'm sorry", "you scared me", "and I love dogs", "Rachel photo"[21]. By going through this path Max will have a new ally (Frank) in her investigation. The following Table shows that the consequences of paths A, B, and C.



TABLE 1. CONSEQUENCES OF DIFFERENT PATHS

Path	Consequences	
	Episode	Description <sup>a</sup>
A	Dark room	Chloe will be terrified
		Max comforts Chloe Frank does not message Max
	Polarized	Frank will not appear at Two Whales Diner during the storm
B	Dark room	Chloe will be angry with herself
		Frank does not message Max
	Polarized	Frank will be present at Two Whales Diner during the storm. Frank will be annoyed to see Max.
C	Dark room	Chloe will be happy that nobody gets hurt and Frank messages Max
		Frank will be present at Two Whales Diner during the storm. Frank's wound will be dressed. Frank will be happy to see Max

a. descriptions are developed based on gamepressure.com accessed 28.Dec.2020

A world is possible if it satisfies the logical laws of non-contradiction: (p or -p AND NOT (p AND -p) [18]. Based on this, a proposition must be true or false, and cannot be both simultaneously [18]. For example, a world is not possible in which Napoleon is dead on St. Helena and also runs away to New Orleans [18]. According to the logical law, in a possible world the inhabitants are either dead or alive, friend or enemy. However it should be noticed that each one of these states is logically verified in different possible worlds [18]. Therefore, it can be considered that the outlined situation in Table 1, functions as a node that the choice of each of the paths A, B, and C leads to the actualization of one of the possible worlds. As presented above, each of the three examined paths alters the relationships and modes of TAW's inhabitants. Before Max starts the conversation, Frank was just a drug dealer with a neutral attitude towards Max. After finishing the conversation, in path A, Frank is dead and Chloe is guilty; in path B, Frank is alive but he has an unfriendly attitude towards Max; and in path C, Frank is alive as well as a friend and ally for Max.

This shows that the player by his/her own will and desire can realize each one of the possible worlds that are implicitly included in this chapter of the video game's story. In other words, going through paths, A, B, or C, the player can actualize the TAPW 1, TAPW 2, and TAPW 3 respectively. From the

beginning of the game to the last moment and in all five episodes, the player is always faced with a series of choices. The player must choose one of the options of each choice in order to progress and complete the story in each episode and finally finish the video game. Each of these choices acts as a node that allows the player to freely choose any of the possible text states and worlds. Since the player encounters several different paths in each of the story nodes, going from one node to another can eventually lead to the creation of several different storylines. In other words, this feature of the choices made this video game entailing a multi-layered narrative line. This shows that the player is not just a passive operator, but by following each of the narrative lines can play a practical and active role in creating the video game's story.

#### IV. CONCLUSION

The present study focused on investigation of the fictionality and literary aspects of *Life Is Strange* video game which has not been previously addressed by any of the research conducted on this video game. It suggests that player in *Life Is Strange* can narrate different stories by choosing different options. Applying Ryan's theory of Possible Worlds to *Life Is Strange* reveals the choice-based narrative structure of the video game makes it a multi-layered narration. Analyzing the storyworld of the video game according to Ryan's theory and applying the concept of virtual recentering to one of the primary choices in the video game highlights the player's active role in co-creating its fictional worlds. The gameplay of this video game is not based on the duality of winning or losing. In fact, the most important challenge for the player is how to unfold the story. This challenge allows the player to realize different game worlds by following each of the multiple narrative lines. For this reason, in *Life Is Strange*, the player has an active role in the storytelling process instead of being a passive observer operator. This fictional narrative potential shows that, contrary to ludologists, in *Life Is Strange* narrative and storytelling can play an essential role and form the core of the video game.

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