

Interactivity: Storytelling or Storywriting?

A closer look on videogames and narrative

Damien Djaouti^{1&2}, Jean-Pierre Jessel¹, Gilles Methel², Pierre Molinier²

¹IRIT, Université Toulouse III, France, ²Université Toulouse II, France.

djaouti@irit.fr, jessel@irit.fr, methel@univ-tlse2.fr, pierre.molinier@univ-tlse2.fr

Abstract

This paper deals with the question of relations between videogames and narrative. By reading many of the existing studies on this topic, opposite conclusions can be drawn about the link between interactivity and narrative. To help us clarify these opposite conclusions, we will first use a distinction between story and storytelling. We will then analyse a corpus of narrative videogames to identify several forms of story and storytelling, some being interactive and some not.

This analysis will help us propose several categories of combination between storytelling, storywriting, and interactivity.

Keywords:

Videogames, story, storytelling, storywriting, interactive, narrative.

1 Introduction: Can narrative be interactive?

Far from being a new topic, this question is still actively researched by many academics and professionals. Starting from Aristotle's "Poetics" [Aristotle 453BC] to structural analysis of narratives such as Todorov [Todorov 1981], Brémond [Brémond 1973] or Genette [Genette 1981] works, narratology features a deep knowledge about narrative. These works were used as a basis by many analyses of relations between interaction and narrative.

In a simple manner, we may organize these studies in three groups: "narrativism", updating narratology [Douglas 2000] by analysing for example hyperfictions [Bernstein 2001]; "ludology", pointing out the limits of narratology studies [Juul 1999] when applied to videogames instead of books [Frasca 2003], and "middleground positions" [Mateas, Stern 2005], gathering studies based on different approaches to extend former works [Crawford 2005].

Using different approaches usually leads to a better understanding of a problem, but for someone interested in "interaction meets narrative" these three groups of studies tends to be confusing: the main conclusion emerging from each group enters in conflict with conclusions of the two others. While narrativist and ludologist seem to agree on the incompatibility between narrative and interaction, studies from middleground positions point out a variety of "interactive narrative" form.

How can such opposite conclusions emerge from studies about same videogames?

The categories presented in this paper are drawn from the analysis of a selective corpus of videogames. By reading computer gaming press, we have selected 19 "narrative" videogames, in order to help us to verify conclusions drawn by ludology, narrativism and "middleground positions".

2 Scope of the study

As mentioned above, we will focus on videogames. But what is a videogame?

According to a popular definition it is a “game played on a computer-like machine”. We may then consider a videogame as an interactive application, coming to life through the interaction with a player (or a user). Nevertheless, as Juul [Juul 2001] pointed it out in one of its articles, the scope of “interaction” can be very large.

In this paper, we will refer to the definition of interactivity proposed by Chris Crawford [Crawford 2003]: « *A cyclic process in which two active agents alternately (and metaphorically) listen, think, and speak.* ».

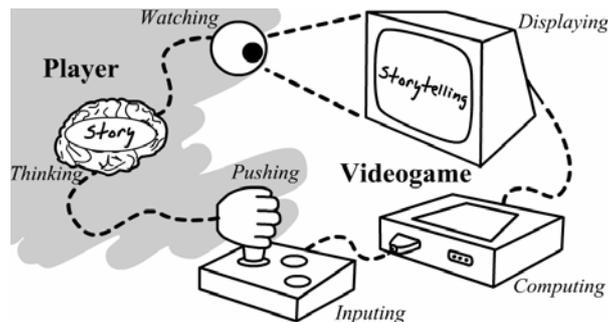


Figure 1: Interaction cycle involving a videogame and a player.

As you can see on this figure, “interaction” can take place inside each of the two entities: when a storytelling is presented, the player will “analyse” it in order to retrieve the story behind it. The machine will then “listen” to player inputs in order to adapt its storytelling to player’s actions.

Please note that this is a major difference between a movie and a videogame: a videogame features an interaction within itself, whereas a movie does not.

According to Gonzalo Frasca [Frasca 2003], a storytelling can be considered as the “result” of the interaction taking place within a videogame. For a movie, the storytelling is directly “written” on the film gauge.

In this article, we will focus on interactivity taking place within a videogame.

Now that we specified which definition of « interaction » we will use, we should also try to define a precise definition for the word « narrative ». This task may be way harder, considering the large amount of studies gathered by narratology. But according to early ludology works conducted by Frasca [Frasca 2003], Juul [Juul 1999], or Eskelinen [Eskelinen 2001], all these narratology studies cannot be directly applied to videogames.

We then propose to look back to one of the first steps of many narrative structural analyses: the distinction between “story” and “discourse”. Used by many academics such as Todorov [Todorov 1981] or Genette [Genette 1981], this distinction seems to be established by Emile Benveniste [Benveniste 1966], a french linguist: (*personal translation from French*)

- “**Story:** presentation of facts happening in a certain period of time without any intervention of the storyteller”.
- “**Discourse:** any telling involving a storyteller and a listener, the first one featuring the intention to influence the second one by any manner”.

We may also find this distinction with the Russian formalists, who separate “*fabula*” (“what really happens”) from “*szujet*” (“how the reader knows it”).

In a more general way, this distinction also seems to be drawn by Plato, who separated “*logos*” (“what is said”) from “*lexis*” (“how it is said”).

Within the context of our study, we will then use these two definitions:

- **Story:** “an ordered set of events involving one or several actors in one or several places”
- **Storytelling:** “the discourse of a story”.

We consider the story as a conceptual element, while the storytelling is the representation of a story. Please note that we do not separate the “discourse” from its “reading”, as Genette proposed to do in one of his books. This separation is really interesting when analysing temporal difference like Jesper Juul did in his master thesis, but this article will focus on the simple difference between “story” and “storytelling”.

3 Storytelling

The analysis of storytelling interactivity involves studying the way a videogame offers to interact on the discourse of story events.

3.1 Space-based storytelling and time-based storytelling

By analysing our 19 “narratives games”, we can observe two kind of storytelling: time-based and space-based.

Of course, these two kinds of “discourse” features both time and space dimensions, but only one of them is used to “enunciate” the discourse of the storytelling.

This observation leads us to the work of Genette, who already separated two levels in storytelling: “discourse” and “enunciation” (meaning “reading” for books).

We then differentiated discourses of stories by analysing the dimension its enunciation is driven by, either space or time:

- **Time-based storytelling** involves a time movement to “tell the story”. Movies are common examples of time-based storytelling: the time of the storytelling flows according to the time of the “reading”.
- **Space-based storytelling** involves a space movement to “tell the story”. Comics and books are common examples of space-based storytelling: each “time step” of the storytelling is represented as a frame or as a word, “reading” them requires a spatial movement of the eyes trough words or frames.

When looking at videogames, we can find these two kinds of storytelling as well:

Games like “Dragon’s Lair” are typical examples of time-based storytelling. “Quick Time Events” sequences (Q.T.E.)^[1] featured in games such as “Fahrenheit” or “Shenmue”, are also common examples of time-based storytelling.

Games like “Myst” or “Adventure” (either textual or graphical versions) seems to be good examples of space-based storytelling. Henry Jenkins [Jenkins 2004], who proposed to consider games as narrative spaces, even compares “Myst” to a memory palace.

3.2 Hybrid storytellings

Anyway, few games seem to be based on only one kind of storytelling: the vast majority of them features different combinations of time-based and space-based storytelling. We have observed several ways to combine time-based and space-based storytelling in the games we analyzed:

- *Switched*

Time-based sequences are mixed between spatial or hybrids sequences.

Many games seem to rely on this method, and the popular use of “cinematic sequences”, either in introduction or within the game, seems to be its best example.

For example, the game “Fahrenheit” features a five minutes long opening sequence solely based on time-driven enunciation, as any movie. After this sequence, the player gains the control of an avatar in a “narrative space”, and must travel through this space to continue the storytelling.

- *Fusion*

The two kinds of storytelling are used at the same time. We observed several variants:

- *Space-based within time-based*

The simplest example is the “forced scrolling” found in many platform games like “Super Mario Bros”: the storytelling is built as a space, but navigation through this space depends on time.

- *Time-based within space-based*

As a game like “Half-life” shows us, you can include several small “time-based storytelling areas” in a larger space. The player freely navigates through the space-based storytelling, but this space features several “micro-cinematic sequences” such as a falling elevator or a guard being chased by huge aliens. Jenkins calls this method “micro-narration” [Jenkins 2004].

It’s also interesting to compare the way of storytelling used in “Half-life” to the methods used in “Doom”, as these two games share the same plot. In “Half-life” the initial situation and the inciting incident are “playable” and told through this way of fusion between time-based and space-based storytelling. In “Doom”, they are only told through space-based storytelling, and only in the game manual!

3.3 Interactive storytelling?

This distinction between space-based and time-based storytelling is sure interesting, but it does not yet answer the question of the storytelling interactivity.

After analyzing 19 selected games, we propose general tendencies showing how interactivity can be linked (or not) to storytelling. In other words, here is several ways for a player to modify a storytelling, at least in the games we studied.

First of all, time-based storytelling can only be interactive if the player is able to interact with the time flow. It happens hardly in the videogames of our corpus, meaning **time-based storytelling seems hardly interactive**. Indeed, time-based storytelling seems to be mainly used in “non-interactive” narrative sequences, called “cinematic sequences”.

We nevertheless observed two exceptions to this tendency:

- Games allowing the player to modify time speed, generally in a limited way: slow-down like in “Max Payne”, speed-up for “Homeworld” or limited rewind such as the last “Prince of Persia” trilogy. This is a direct interactivity with time and time-based storytelling.
- Games where the time flow depends on player interaction, such as Fahrenheit’s “Q.T.E. sequences”[1]: if the player fails to match the button shown on screen, the time is stopped, so is the time-based storytelling.

This general tendency is reversed for space-based narration: **when the player is projected in a space, he is usually free to move through his inputs**. Our games seem to generally allow the player to interact with space-based storytelling, by allowing the player to modify spatial position.

One exception to this tendency can be observed: some games, such as “Dark Messiah of Might and Magic” feature a space-based narration with movement driven by time, but only on one axis, the player still being free to move on the other axis. “Super Mario Bros” forced scrolling is another example of this kind of exception.

Please remember these are only main tendencies based on a selective corpus, others games may use different ways to combine interactivity with storytelling.

4 Story

Studying the interactivity of a story implies to analyse interactivity related to the events of this story.

4.1 Written stories and generated stories

In a simple way, we could split stories into two groups: interactive stories, allowing a player to interact with its events, and non-interactive stories whose events cannot be modified. By “modified”, we mean the ability for the player to create, modify, or prevent an event to happen within the storyline.

As seen in the first chapter, videogames can be considered as interactive applications computing a result, here the storytelling, presented to a player. All computations made by the machine are driven by a set of rules crafted by the videogame author. Considering these rules are able to include player inputs within their computations, we can call them “interaction rules”.

As Pierre Jenn [Jenn 1991] explains in his books “Scenario techniques”, writing a story implies to ask loads of questions, such as “why will this character performs this action?” or “why will this unexpected event happens?”

When writing a story on a non-interactive support, the author writes down the answer to these questions. When writing a story on a computer-like support, the author translates into rules these questions.

We will then call “**written story**” a story directly written as an inalterable result, and “**generated story**” a story resulting from computation of the machine, according to rules able to produce different results on each computation.

Focusing on computer application and especially videogames, we may retrieve “written stories” and “generated stories”. Cinematic sequences are examples of “written stories”: even when they are written trough rules (and generated by the game graphical engine) the player cannot alter the events of the story. On the other hand, we can find games generating stories, such as “the Sims” or “Façade”.

As for storytelling, stories can be in either “spatial” or “time” forms: level design is a space-based way of writing stories. While most level designers write levels for once, creating “written stories”, some games seems to use “generated story” in a spatial way, such as the game “Diablo” which create new dungeon maps on each play session.

4.2 3.2 Combination between written and generated stories

As for storytelling, games featuring a written-only or a generated-only story are very rare. Indeed, many games seem to mix both kinds of stories, in several different ways:

- **Switched**

Parts of the story are “written” and mixed with “generated” parts. Many games seem to use this method, mixing “cinematic sequences” based on a “written” kind of story with “gameplay sequences” often based on “generated stories”.

- **Fusion**

Several ways of fusion between “written” and “generated” story seems to exist:

- *A written space with generated actors*

It seems to be a common method for “action” and “strategy” games. The author builds a level in a “written” way, and populates it with “generated” actors animated by rules.

For example, in “Half-life”, levels are designed once by the designer and cannot be altered by the player, but the behaviour of the (many) hostiles and the (few) helpers inhabiting these levels is generated after player inputs.

- *Written sequences linked through generation: branching trees*

This method seems to often appear in “adventure” games. The author first crafts many short sequences (small sets of events) in a “written” way. These sequences will then be relied to form a consistent story through generation. It may be “interactive generation” such as in “Sam & Max” and “point & click adventures” or “random (non-interactive) generation” like “Dragon’s Lair”.

- *Newer version of the first method*

An evolution of the first method consists in building not only a set of levels dedicated to the story, but a whole coherent world, like in the “G.T.A.” series. Many actors inhabit this virtual world, and are driven by a set of behavioural rules.

A story is then “written” in this autonomous world in a manner similar to racetrack design: the author crafts a set of checkpoints, requiring the player to reach these checkpoints in a specific order to discover the story. It is common to see checkpoints linked to cinematic sequences, gathering both above methods in this “new one”.

Games such as the “Hitman” series or “the Sims Life Stories” are based on this method.

4.3 Written, generated and interactivity

At first, we have thought the relation between interactivity and story were simple: generated stories are interactive while written stories are not.

Nevertheless our corpus of games tends to indicate it is a bit more complicated: if all written stories are indeed not interactive by definition, not all generated stories are interactive.

For example, the games “Diablo” and “Dragon’s Lair” indeed feature generated stories, but this generation is random and non-interactive. The explanation of such a non-interactive generation lies within the rules crafted by the author. When computing a result, such as a story or a storytelling, the machine uses a large set of rules, but these rules are not all the same kind.

Several videogame rules typologies exist, such as the one proposed by Gonzalo Frasca [Frasca 2003] or the one we proposed in an article about gameplay [Djaouti, Alvarez, Jessel, Methel, Molinier 2007], but these typologies seem too precise to help us with our current observations. For now, let us consider two large kinds of rules:

- **Rules including players input within their computation**, allowing the result to be “interactive”. “Player cannot walk through walls”, “If player falls from above 50 m., he will

broke his leg”, “If the player is rude towards people, people will run away” are examples of “interactive rules” for the player.

- **Rules ignoring players input within their computation**, meaning the result presented to the player will not be interactive. “If a car runs out of fuel, it can no longer move”, “At 11 o’clock a paper-boy starts delivering newspapers” are examples of “non-interactive rules” for the player.

It is clear that only the “interactive rules” category will allow an author to craft interactive stories. If you try to look behind “Façade” while playing, you will see many interactive rules answering player sentences, working together in order to generate a story in an interactive way. But some non-interactive rules are of course used in Façade, such as the physical laws making a glass falling while dropped.

To summarize, **“written stories” are not interactive**, whereas **“generated stories” can be interactive** depending of the kind of rules used to write them.

5 Conclusion

In order to help clarify the role of the many studies available about relations between interactive and narrative, we first drew a simple distinction between “story” and “storytelling”, referring to the first steps of structural analysis in narratology.

We then used this distinction as a base to analyse a corpus of videogames considered as “narrative” by gaming press and players. This analysis, referring to existing studies conducted by Henry Jenkins [2004], Gonzalo Frasca [2003] or Michael Mateas [2005], led us to point out several forms of “story” and “storytelling” in videogames. Interestingly enough, all of these different forms feature a different link to interactivity: some forms as “written stories” are not interactive, whereas others like “generated stories” can be interactive.

These observations help us clarify the scope of the existing groups of studies on interactive narrative[2]: ludology and narrativism appear to share the same non-interactive (“written”) definition of a story, while middleground positions seem mainly interested in “story generation”, either by using interactive rules or not.

According to the earliest articles of ludology, narratology was based on non-interactive story, non-interactive storytelling, and focused on the result instead of rules and their many potential interactive results.

Whereas many articles claim to deal about storytelling, very few of them clearly announce to work on story while they are deeply focused on it.

For example, the book gathering Chris Crawford [Crawford 2005] studies and analysis on this theme is titled “Chris Crawford on Interactive Storytelling”, while the book mainly deal with interactive forms of story, aimed to achieve an “interactive story writing” shared between the game author and the player.

But as we have pointed out in this article, relations between interactivity and story are not the same as relations between interactivity and storytelling. Moreover, a game can feature an interactive form of story without an interactive storytelling, such as “Dragon’s Lair” which is based on time-based storytelling with a branching tree generated story. Games like “Myst” or Adventure even feature a written story with an interactive space-based storytelling.

Hence, in order to help clarify the scope of the different studies on this theme, we propose two different terms for these two different forms of “interactive narrative”:

- **“Interactive Storytelling”**, for the interactivity linked to storytelling, meaning interactivity allowing the player to modify the ways story events are told to him.
- **“Interactive Storywriting”**, for the interactivity linked to story, meaning interactivity allowing the player to modify the story events itselfs. As we observed in this paper, the interactivity of the events leads to interactive ways of crafting a story. Hence we propose the neologism “storywriting” instead of the term “story”. As the word story is linked to an “object” instead of an “action”, we thought “writing a story” would fits better with “interactive”.

This leads to an interesting, yet simple, question for all researchers studying relations between interactivity and narrative: Do you study interactive storytelling, interactive storywriting, or both?

Acknowledgements

The authors wish to thanks Julian Alvarez and Michel Lavigne for their helpful remarks, and Raphaëlle Costa de Beaugard for many references on narrative structural analysis.

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Notes

- [1] Derived from Dragon’s Lair’s gameplay, these sequences display a cinematic scene while the player is asked to press buttons accordingly to what is display on screen above the cinematic. If the player fails to do so, the cinematic ends.
- [2] For a detailed analysis of each group of studies scope through a close analysis of several articles, please refer to: Djaouti Damien, “Narration and Interaction: relation within videogames”, University Toulouse II, 2007