LUDOLOGY MEETS NARRATOLOGY:
Similitude and differences between (video)games and narrative.

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Literary theory and narratology have been helpful to understand cybertexts and videogames. Aristotelian Poetics [Laurel, 1993], Russian formalism [Porush and Hivner, ?], and poststructuralism [Landow, 1992] are some of the different perspectives that have been used to study the subject.

Some authors see cybertexts and videogames as a new form of or as an expansion of traditional narrative or drama. The fact is that these computer programs share many elements with stories: characters, chained actions, endings, settings.

However, there is another dimension that has been usually almost ignored when studying this kind of computer software: to analyze them as games.

The problems of using a "game" perspective are many. Basically, traditional games have always had less academic status than other objects, like narrative. And because of this, game formalist studies are fragmented through different disciplines, and not very well developed.

In this paper we will propose to explore videogames and cybertexts as games. Our intention is not to replace the narratologic approach, but to complement it. We want to better understand what is the relationship with narrative and videogames; their similarities and differences.

However, the task is not easy. As Espen Aarseth [1997], one of the very few authors that insisted on the importance of the game dimension of cybertexts and videogames, affirms:

"To claim that there is no difference between games and narratives is to ignore essential qualities of both categories. And yet, as this study tries to show, the difference is not clear-cut, and there is significant overlap between the two."

Our major problem is the actual situation of the study of traditional games: lack of clear definitions and theories; more functionalist approach rather than formalist; fragmented analysis from different disciplines.

We will assume the risk of proposing a couple of new terms and definitions, but making clear that they are strictly provisional. While here they are presented in a different perspective, many of the ideas shown in this paper were first introduced in [Frasca, 1997]. The reader may consult this previous work in order to find broader explanations and examples of many topics analyzed here.

THE NEED FOR A LUDOLOGY

The term *narratology* had to be invented to unify the works that scholars from different disciplines were doing about narrative. The research about games and play is in a similar situation: the topics have been broadly studied from different disciplines (for example, psychology, anthropology, economy and sociology).

However, these studies are generally independent, focusing on small characteristics and without looking for bigger patterns of understanding.

We will propose the term *ludology* (from *ludus*, the Latin word for "game"), to refer to the yet non-existent "discipline that studies game and play activities". Just like narratology, *ludology* should also be independent from the medium that supports the activity.

The first necessary step in order to understand games should be looking for a clear definition of the object of study. An overview of the available bibliography [Frasca, 1997] shows that definitions are vague and sometimes even contradictory.

The reader will notice that we will not refer in this work to the classic "theory of games", that has so many applications in economy, political sciences or organizations theory. The fact is that we did not find in this theory elements that seemed useful for our objectives. The possible reason is that, as Lloyd S. Shapley [Grolier Encyclopedia, 1995] claims,

"*Although the terminology of players, moves, rules, and payoffs might suggest a preoccupation with sports or recreation, the theory of games has seldom been of practical use in playing real games. This may be because the theory is based on idealized players who have clear motives and unlimited skill and calculating ability*."

PLAY AND GAME

There are two terms in English to define the activity: play and game. Other languages just use one term (for example, "juego" in Spanish, "jeu" in French). The importance of differentiating those two concepts made some authors, like Roger Caillois, to introduce new terms when they were not available in their native language [Caillois, 1967]. Caillois proposed "*paidea*" as an equivalent to the English noun "play", and "*ludus*" for the noun "game". We have decided to maintain these neologisms, in order to solve some confusions that may arise (mostly because in English "play" and "game" are both a noun and a verb). However, as we will explain later, the meaning that we will give to those nouns will be slightly different from Caillois''.

Let's first take a look to the traditional meaning of *play* and *game*.

The dictionary defines *play* as:

"(What is done for) amusement; recreation" ; "the playing of a game; manner of playing" ; "turn or move in a game" ; "(contrasted with work) have fun" ; "pretend, for fun, to be sth or do sth". [Hornby, 1987]

And *game* as:

"*form of play, specially with rules*" [Hornby, 1987]

Usually, *play* activities are associated with children, while *games* are thought to be more adult activities. The reason is that *games* have a strong social component, and young children need first to be socialized in order to perform that kind of activities. After that period, *games* start to be played, and they continue through adulthood. However, both play and game activities remain present during adult life (tough in different proportions) [see Piaget, 1991].

We can give many examples of *play* : bouncing a ball, jumping, pretending to be a doctor. The limits of *play* are more diffuse that *game* : the player can start, finish or switch to a different activity without any exterior warning. On the other hand, *games*are more strictly defined: they have an explicit set of rules, and a defined space and time. Examples of games are: soccer, chess, hopscotch.

It is a common idea, as the dictionary's definitions show, that the main difference between those two categories is that *games* have rules and *plays* do not. However, anthropologist Daniel Vidart shows that this assumption is wrong and that *plays*have also strict rules. He gives the example of a child that pretends to pilot a plane. There is a rule in play: to behave like a pilot, and not like a doctor or a car driver. That rule was proposed and accepted by the same player, and she can drop it whenever she feels like it. While playing, she will accept it, in the same way she would accept a rule in a *game* . [Vidart, 1995].

So, if both *play and game* have rules, which is the main difference between them? The only author that gives a hint is philosopher Andre Lalande. He proposes two different meaning when he defines "jeu" in his *Dictionaire Philosophique* [Lalande, 1928]. Even though he does not explicitly refers to game and play (just one French word exist for both activities), he differentiates them not because of their rules, but by their result. *Games* have a result: they define a winner and a loser; *plays* do not.

That is why we decided to use Lalande's definitions of *jeu* (associated to Caillois' neologisms to prevent confusions between the terms).

Paidea is "*Prodigality of physical or mental activity which has no immediate useful objective, nor defined objective, and whose only reason to be is based in the pleasure experimented by the player*".

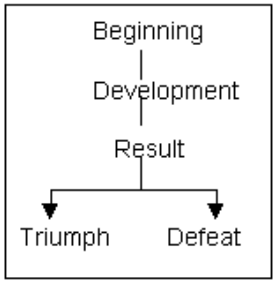
Ludus is a particular kind of *paidea*, defined as an "*activity organized under a system of rules that defines a victory or a defeat, a gain or a loss."*

LUDUS AND NARRATIVE

The concept of *ludus* can be helpful to understand the relationship between this particular kind of entertainment and narrative.

Ludus have a defined set of rules. These rules can be transcribed, and easily transmitted among different players. Sometimes, rules are backed up by organizations that define their rules, like FIFA for soccer.

Based on our previous definition, we can easily describe the *ludus* process as follows:



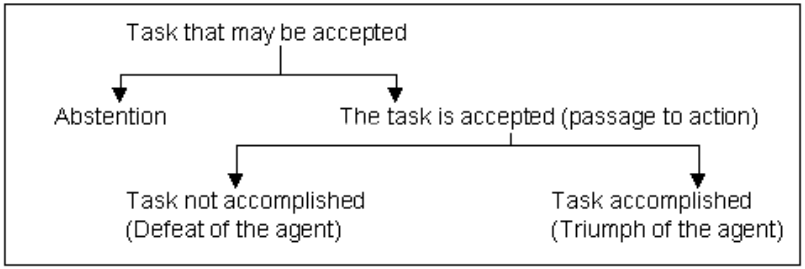
We could complicate a little more the scheme, adding the concepts of gain and loss (for example, a condition for Triumph can be the gain of a specific number of "goals" or "points"). But at this stage, we will keep this scheme simple.

The game itself is played during the development. The Beginning is a previous step, where the rules are defined and accepted by the players. The Result is the final step, where, according to the rules, a winner and/or loser are designated.

Let's now take a look to the agent scheme of Claude Bremond's "Logique du recit" [Bremond, 1973]. This author continued the work of Vladimir Propp, focusing on the minimal elements of the plot. Basically, Bremond's task was to answer the following question:

"is it possible to describe the complete net of options that the logic offers to the narrator, at any point of the story, for continuing with its development?".

Bremond based his work on different narrative roles. The following scheme describes the options ("possible narratifs") for the willing agent.



[Note: original text of this diagram in French, the English version is my own traslation

Tache susceptible d'etre assumee; Abstention; Accomplissement de tache (passage a l'acte); Tache non accomplie (echec de l'agent); Tache accomplie (succes de l'agent)]

Apart from the Abstention option, Bremond's scheme looks similar to the *ludus*scheme. Actually, we could easily add the Abstention option in *ludus*, too: at the Beginning, the player decides not to play.

Even if they are not identical, the similarity is obvious. The reason is simple: they both describe a weighted action (or a set of weighted actions). By weighted, we mean an action that, once it has been performed, has a particular value (triumph or defeat).

Bremond's scheme describes the possibilities that the author has at any moment of the story, to deal with an agent's action. Each combination of elements (or*functions)* is called a *sequence*. For example, let's use the scheme to describe the opening of a door by a character.

The three possible narrative sequences from this scheme would be:

1) "The door is locked with a combination lock. The agent doesn't try to open it"

2) "The door is locked with a combination lock. The agent tries a combination code. The door remains closed".

3)) "The door is locked with a combination lock. The agent tries a combination code. The door is opened"

Bremond's scheme could also be used to describe a particular *ludus* in an adventure videogame. Those videogames are made by many different "puzzles", or problems that need to be solved in order to continue the game. Those "puzzles" perfectly fit our definition of *ludus*.

Adventure videogames usually have, at least one "correct" path to win the whole game. There is a right sequence of solving that will lead to the triumphal denouement of the adventure's "story". Each time the player fails solving a puzzle, either the videogame ends "wrongly" (and the player loses), or the player has to continue until she goes through it.

In Bremond's words, an adventure videogame could be described as follows: the player's performance would determine a particular set of functions, from the point of view of the character that he is controlling. One particular combination of functions (plot) is the winning one; all the rest will lead to the player's defeat. For example, in an adventure game, sequence number 3 could be the winning one.

Thus, does this similarity between Bremond's scheme and our scheme of *ludus*mean that games and narrative are the same thing? Absolutely not. As we are going to show, we are facing two ontological different objects. However, they do share some structural similarities, and analyzing them may help us to better understand their differences.

First of all, Bremond's scheme does not represent narrative itself, but the possible narratives ("*possibles narratifs")* that are available for the author when she is crafting the story. There will only be narrative when the author decides which path of the scheme she will take (and, therefore, a *sequence* is built).

In a similar way, our *ludus* scheme represents the possibilities of the game (winning or losing), but not a particular *session* of *ludus*. *Ludus* and *sessions* are different things; the first is general, the second is particular.

Thus, we cannot claim that *ludus* and narrative are equivalent, because the first is a set of possibilities, while the second is a set of chained actions. It would be the same as claiming that Bremond's scheme is similar to a sequence.

What seems to be similar in structure are the *session* and the *sequence*. However, that does not mean that they are the same thing.

For an external observer, an adventure videogame *session* will look like a group of narrative sequences. Actually, it is perfectly possible to videotape an adventure videogame session and show it to a public as a work of narrative (probably the result will not win any Oscar award, but it will still be narrative).

However, the player is not an external observer. Observers are passive, the player is active. If the player does not act, there will be no game, and therefore no session at all. It is a completely different activity to watch a game and to play the game.

The *session* is not the *ludus*, it is just a product of it. We have seen that, while *ludus*and narrative are not the same thing, some kinds of *ludus* (particularly the adventure videogame), can produce narrative sequences and, therefore, narrative. However, producing narrative and being narrative are different things. It is not correct to claim that adventure videogames are narratives.

In this section we wanted to better explain some of the relationships between *ludus*(and some videogames, particularly adventures) and narrative. However, many other questions need to be answered. We will finish with one of those open questions: can every kind of *ludus* produce narrative sessions?

According to what we just saw, the answer would be yes, because *ludus* sessions are structurally similar to narrative sequences. However, there are many other rules that narrative has to follow in order to be recognized as it.

For example, a session of Tetris can hardly be recognized as narrative, mostly because of its lack of characters. However, some narratology authors claim that even a cooking recipe is narrative, so maybe a session of Tetris could be it, too. It is not our intention to go deeper into these subjects right now. What we are going to say is that there is a perceivable difference between a session of Tetris and a session of an adventure game. The reason is probably that the last one is generally closer to a culturally accepted narrative genre. For example, a session of Infocom's *Deadline* is similar to a detective story (at least in some part of its structure, characters, and actions).

PAIDEA, NARRATIVE SETTINGS AND CHARACTERS

We have just taken a look at the relationship between *ludus* and plot's structure. However, even if plot is an important element of narrative, many others exist. In the same way, we have also just focused on *ludus*, a particular kind of play, without yet paying attention to *paidea*.

It's easy to find *ludus* examples in videogames: *Pac-man*, *Doom*, *Mario Bros.*,*Myst*. These videogames usually have a clear main goal (for example, "save the princess" or "find all the lost pages of the book"). In these videogames, the player can easily know the final result. For example, if she frees the princess in Mario, she will win. If she can't, she will lose.

According to our definition of *paidea*, many software programs that are not videogames can enter into this category: for example, a paint or design software. Some videogames can be lost, but never be wined. Let's think about simulators: there is not a clear goal in SIM CITY. The player can define his own goal: to build a big city, or a pretty city, or a safe city. The same is true with flight simulation. Even though many flight simulators include missions with goals ("bomb the building' or "land the plane"), most of the pleasure of the software may be just in the ride. The player is free to decide what she wants to do (for example, do some acrobatic loops, or fly under that bridge, or over that city).

These simulations do have rules of defeat, but not rules of triumph: the main goal is up to the player. As LeDiberder affirms, they are more like toys [LeDiberder, 1993] or even playgrounds. They give freedom to the player to decide what to do.

Paidea videogames have no pre-designated goal. So, there is no "winning plot", as in adventure videogames. The player has more freedom to determine her goals.

As we have seen, as soon as the *paidea* player determines a goal with winning and losing rules, the activity may become a *ludus*.

If *ludus* can be related to narrative plot, *paidea* can be related to the narrative settings. The ability to perform *paidea* activities is determined by the environment and the actions. By environment we mean the space where the player is (real, as in a school playground, or virtual, as in a videogame). The environment includes topology, objects and other characters.

The setting ("spaciotemporal circumstances in which the events of a narrative occur" [Prince, 1987]) has different relevance in narrative. Some authors focus on creating an interesting plot (like in some classic detective novels), while others want to describe a world or place (for example in a travel story).

The setting is a main component of a novel like Garcia Marquez's Cien años de soledad. The description of the places, the objects and the characters presented in the novel are of extreme relevance. If the novel was analyzed using Bremond's methodology, all this information would be lost, because it does not constitute the plot. In a similar way, the *paidea* elements are not functional towards the *ludus*, but they can be a very important part of the game experience and, therefore, they deserve our attention.

Of course, the setting in videogames is different than the one in traditional narratives. The videogame designer can allow the player to perform man actions on any object in the environment (like manipulate, examine, move, break or use it). Some particular kinds of objects have anthropomorphic behavior; they seem to be independent; somehow intelligent; perform different actions and communicate with the player: they are the computer-controlled characters.

Probably one of the most developed kind of *paidea* videogames are MUDs and MOOs. They define a virtual world, where many actions are possible, including expanding the topology and creating new objects. Their thematic is varied: many of them are set in fictional worlds, others not. Some are set in medieval times, other in science-fiction worlds; and many reproduce traditional towns or cities.

As MUDs are multiplayer-based, they have an enormous advantage over adventure games: human-controlled characters. The fact that a real (hopefully intelligent ;) person is behind an avatar, allows a kind of realism and conversation far superior from the offered by adventures videogames. However, we believe that this fact is also what keeps locked the potential of MUDs as a narrative-like medium.

There are two kinds of computer characters. One is the puppet, controlled by the player; the rest are either computer-controlled or either human-

controlled. It is almost impossible to create a puppet of a shy, calm nun and pretend that players will behave according to those traits. If the nun is allowed to control, let's say, a gun, it would be hard that the player doesn't try to kill other people, even if the character was supposed to be a pacifist.

People in MUDs do not behave like narrative characters; people's action lack of narrative characters' coherence. Narrative characters are not like real people; usually they are archetypes (the hypochondriac, the joker, etc.). Even more complex narrative characters are more coherent than the behavior of MUDs players, because behind them there is an author shaping their actions. MUD players are not authors; even if they pretend to be somebody else, they do not usually want to tell a story but to be engaged in *paidea* activities. On the other hand, narrative characters are generally driven by different goals (conscient or unconsciently), making their behavior more similar to *ludus*.

It is a common thing that, in rich countries, immigrant people clean public toilets because generally natives can choose other jobs. Something similar happens in MUDs. As the players are free to do everything they want, many activities (and therefore characters) are usually absent from those environments. The consequence of this is simple: the character richness is low. So, who will do the dirty job?

Of course, MUDs have other kind of characters: bots (computer controlled characters). Actually, conversational bots or chat-bots are becoming more and more sophisticated (and many times they are mistaken as humans by many players). Bots are context based: they can perform just certain tasks (talk about sports, for example) but they still fail to emulate all the actions of a real human player.

Intelligent Bots could be used to solve the second problem: to represent certain characters that are generally refused by human players. However, this would not solve the problem that human players do not behave like characters.

Actually, that second problem is very well solved in non-computer-based role-playing games, like Dungeons and Dragons. The Master of the game can easily craft a "non-computer-based" bot, and give it the traits of a much realistic (and also more narrative-like) character. The character coherence problem is partially solved in this game: unlike in online games, people that gather together to play D&D are usually more focused in going after a goal rather than just wandering around. However, the problem still persists: even D&D are still players rather than authors; they are more interested in playing rather in building a coherent, believable character.

The characters that a player finds in *ludus* (adventure games) can be dumber than in *paidea* environments. In adventures, they just appear when the plot requires it, they don't have to be all the time around the environment. As adventure players have less freedom of action than paidea players, the characters in *ludus* will have to react to a smaller amount of stimulus.

Our point is simple: narrative characters are a very important component of traditional narrative, and that potential could be translated to the computer.

Nowadays, *paidea*-based environments lack of characters with the characteristics of narrative characters. So, here is the part where the theories article ends and the aesthetic manifesto starts. We believe that once narrative characters are introduced in *paidea* environment (if that is technically possible), the player experience will be enhanced, adding to *paidea* videogames some of the pleasure that traditionally is found in narrative.

Of course we can not prove this affirmation, but, at least, as we have shown,

there are some reasons to believe it.

CONCLUSIONS

Our main goal was to show how basic concepts of ludology could be used along with narratology to better understand videogames. In this particular paper, we just used the proposed terms of *ludus* and *paidea* for two simple tasks. The first was to explain the relationship (mostly differences) between games and narrative. The second task was also very particular: to show some relationships between narrative "environment" (settings and particularly narrative characters) and *paidea*.

We feel the need to insist that these two approaches were done in a very basic way, and both topics deserve a longer and more complete study. We

think that once ludology grows, its applications to videogames will be very helpful.

There are many other elements from games that should be studied and would probably have many applications in videogame studies. Simply as an example for future works, we could suggest the following subjects:

different kinds of rules in *ludus*; structural differences between traditional games and videogames; classification of the causes of player's pleasure in *paidea*.

We also have just focused on certain videogames, and a very particular kind of cybertext: text-based adventures. It would be interesting to broaden our study and analyze other kinds of software, particularly hypertext fiction.

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