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New Possibilities in Audiovisual Ergodic Narratives

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ABSTRACT – Espen J. Aarseth defined in his work *Cybertext: Perspectives on Ergodic Literature* (1997) ergodic literature as one in which “a non-trivial effort is required to allow the reader to pass through the text”. Based on the analysis of a representative body of narratives found within the ergodic spectrum, this article aims to bring order to the classification of ergodic narratives; and contribute to the development of two possibilities of this type of narrative: transmedial and *raccontian*. Transmedial ergodic literature takes into account the new media and the latest technologies available to the *teleuser* in order to transform his limited role from decision making to an acting role in the narrative, becoming an off-stage character. The *raccontian* proposal is characterized by the application of alterations in the hidden layer of a storyline using the Schrödinger cat effect. Ergodic decision-making dynamics are applied in *racconto* scenes (Rondolino e Tomasi 1995) to manipulate the timeline prior to the story world’s starting point. This allows a greater diversification of outcomes by varying elements that usually remain inflexible and truncated. Two proposals that therefore affect different areas of transmedia communication, as we will demonstrate in this article.

KEYWORDS – audiovisual interaction, cybertext, ergodic narrative, prosumer, racconto, transmedia, video games.

1. INTRODUCTION: (RE)DEFINING THE ERGODIC NARRATIVE

Traditionally, ergodic mechanisms have been experimented from the literary and cinematographic narrations, in products considered to be minority, such as Joyce’s *Finnegans Wake* (1922). In recent times, however, streaming television platforms as Netflix have particularly potentiated this type of interactive narrative to involve more the participation of its users and broaden transmedia

horizons that also allow an expansion from the industrial, into products considered mass or mainstream.

Ergodic is understood here as the concept coined by Espen J. Aarseth in his work *Cybertext: Perspectives on Ergodic Literature* (1997), where ergodic literature is that in which “a non-trivial effort is required to allow the reader to pass through the text”. Thus, the author understands effort as the only requirement to construct narrations in which the user can participate in the management and flow of the narration. Therefore, the ergodic narrative requires an active collaboration on the part of the user. Thus, this nuance would be added to Aarseth’s idea of effort the nuance of *lusory attitude* (Salen and Zimmerman 2004), which refers to the contract established with the actor that involves different reactive and interactive aspects that go beyond the pact between a passive traditional spectator and an audiovisual product, such as the suspension of credibility.

The concept would also involve a breakdown of narrative linearity, and by extension, the idea of multiform history in mind, defined by Janet Murray as one that “presents a single situation or argument in multiple versions, versions that would be mutually exclusive in our common experience” (Murray 1999).

2. ASSUMPTIONS AND OBJECTIVES

This article starts from the hypothesis that contemporary ergodic narrative is that which requires the effort and a *lusory attitude* of the *teleuser*, with the starting premise of the subversion of narrative linearity, in which an active navigation through the different narrative particles is needed, whether to explore or discover all their complexity or to establish the narrative construction of his own choice. Therefore, this text establishes as main objectives the classification of the existing types of ergodic narrative; and the proposal of future ergodic narrative combinatorics.

3. JUSTIFICATION FOR THE STUDY FRAMEWORK

Here it’s been taken as a basis of work different types of narrative, both literary and audiovisual, as well as video games, since in this type of texts:

certain choices on the part of the player will condition what happens in the future until producing different outcomes, while other modifications seem arbitrary and unmotivated. This is very common in video games, especially in RPGs, where the possibility of different choices by the player builds a certain story, thus giving a false illusion of freedom. (Irigoyen 2005)

Ergodic narrative can encounter different levels of complexity and integration. There are several examples and they are given in different types of narrations, although they have found their maximum exponent in the field of videogames. This is why in this text are identified different possibilities detected in both audiovisual and videogames, considering the latter as another extension of the audiovisual narrative, an inter-generic space that brings together many and diverse possibilities of audiovisual genres, at the same time as it needs an interaction with the user, which it takes into account for its own development (Montes 2010). However, it should be clarified that in order to analyze video games narratively it is necessary to discern between the factors belonging to the playful aspect and to the narrative (García 2018). Interaction, the obligation to act in the *diegesis*, is the basic mechanism of ergodic narratives, since without it the narrative does not flow, as it happens in videogames: the *teleuser* must make decisions to consummate the narrative act (Marcos, Romero, and Santorum 2019). The traditional audiovisual is based on embedded narrative, something we also find in videogames; but only in these do we also find the emerging one (with the exception of the ergodic narratives), and which obliges us to contemplate the mechanisms of videogames in the construction of ergodic narratives.

Finally, it is necessary to specify that in this article we use the term *teleuser* (*telesuario*) (Scolari 2019), provisionally proposed by Carlos Scolari, since there is a semantic debate about the term that should define this new user, proactive consumer of different types of narrative in different audiovisual media. From an academic point of view, there is a need to reach a consensus on the terms *teleuser*, *lectospectator*, etc. The need to conceive of a single word that brings together all the different forms it adopts in different means and behaviors of use. From readers of books, listeners of radio and podcasts, spectators of cinema, the audience of a theatre, the players of a video game; all of them in a role of passive consumption as well as of actors and navigators of the narrative.

4. METHODOLOGY

Based on a qualitative methodology of theoretical exploration and analysis of a representative body of narratives found within the ergodic spectrum; and taking as a starting point the analysis of various audiovisual case studies, this research explores the categorization of existing ergodic narratives, and on this basis aims to provide the development of two possibilities of this type of narrative: transmedial and *raccontian*.

5. STATE OF THE ART: PRECEDENTS OF ERGODIC NARRATIVE

The ergodic narrative shows several precedents. In the literary field we find the *Caligrams* of Apollinaire, or even certain authors point to the Egyptian hieroglyphics as an example of the same (Aarseth 1999). *The Mosaic* series (2018), already in contemporary audiovisuals, is another good example of ergodic narrative, a fictional hybrid between series and videogame. It is defined as an interactive app/series that Steven Soderbergh develops together with HBO. At the end of the opening chapter, the viewer can choose what to see next, depending on which character has caught his or her attention the most. Certain episodes of the interactive series are available only after immediately preceding episodes have been viewed. *Mosaic* also has many points that can be considered the end and, once reached, the viewer can decide to go back and see what has been lost by opting for a particular character or path. *Mosaic* does not follow the “choose your own adventure” model, but rather “choose-your-own-perspective”, because the viewer will discover one thing or another depending on what he or she chooses. In the words of the creator, “Mosaic is about an inner awareness of how subjective our experiences are [...]. While branching narratives have always existed, technology now allows, I hope, a more elegant form of interpenetration than used to be possible” (Holland 2018).

In a similar but less sophisticated line, Netflix has released episodes of four series aimed at families: *Puss in Book: Trapped in an Epic Tale* (2017), *Buddy Thunderstruck: The Maybe Pile* (2017), *Minecraft: Story Mode* (Telltale Games - Netflix, 2015) and *You vs Wild* (Netflix, 2019). These experiences are closer to the style of choosing your own adventure, allowing users to decide on character options and plots.

In either case, they are all ergodic narrative, even when they are not properly narrative *per se*. One of the first examples in the field of videogames is the case of *Zork* (Infocom, 1980), where its interface, despite being a videogame, is captured as an interactive text and its storyline corresponds to that of a topographic ergodic. In cases such as *Minecraft* (Mojang, 2011), the narrative possibilities of the children's television series continually refer to the video game format, even using vocabulary that refers to the video game, as a game, or the choice of an avatar at the beginning of the first episode. In *The Cat with Boots* (Dreamworks Animation, 2011) the binary choices at the end of each narrative segment can be seen before they occur; however, the story segments are not available.

The definitive consolidation of the ergodic in the contemporary audiovisual, or at least the democratization of the mechanism, occurs with *Bandersnatch* (Netflix, 2018). In this interactive film, the spectator has the possibility of interacting from the television, making decisions on the part of the central character, such as being an actor. After analyzing the case study of the *Bandersnatch* interactive film, from the *Black Mirror* anthological series, certain shortcomings can be observed as a result of the implementation of ergodic mechanics. The most relevant, detected on the basis of the interviews carried out with the *teleusers* for this study, are: binarity, the degree of limited implication on the part of the spectator and the lack of empathy generated towards the characters of the plot.

Despite presenting a display of its plot with an apparent truffle set of multiple choices that allow us to explore different versions of history with different outcomes, reality does not come close to the premise. The binarity of the choices is due to the false sensation of freedom of choice that in some cases ends up deriving precisely in an absence of freedom of decision, caused by the ergodic ramifications of impasse. This factor ends up having an impact on the degree of involvement of the spectator in that he lacks a real role of actor and translates into being relegated to co-pilot during the narration, whose only mission little transcends the indication "left or right". This limitation ends up unmasking a homogeneity in the number of available outcomes.

The third and final negative characteristic from a good ergodic interaction to *Bandersnatch* is the absence of an empathic construction towards the characters, a personification that, on the contrary, players do get through their avatars in video games (Newman, 2002). Both from a narrative point of view (the different roles that intervene in the plot do not manage to create a link with the spectator) and from the ergodic mechanics that draws from

this emotional link between the reality of the user and fiction. In order to offer a more credible and immersive experience, generating moral disquisitions and difficulties in general when making decisions, it is essential to be able to promote the transfer of the emotional load that the character faces before interactive events. Ergodic mechanics should enable an increase in the involvement of the spectator who manages to generate that discomfort before the possibility of making the wrong decision, blurring the security environment that provides the fictional.

6. TYPES OF ERGODIC NARRATIVE

From the narrative point of view, then can be established the following categorization of transmedia possibilities on the basis of existing examples:

- **CREATE YOUR OWN ADVENTURE:** in which there are several predetermined narrative paths in which the user must choose which path to take. There are different possibilities:
 - **REVERSIBLE:** where the user can return to a decision-making node and reconstruct the actions differently since then under the internal rules of the narration. For example, *Detroit: Become Human* (Quantic Dream, 2018), where the *teleuser* can go back in decision making, once the chapter is over, with different consequences in the plot of the game according to the ethics of decision making.
 - **IRREVERSIBLE:** in which the user cannot go back in the decision-making process under the internal rules of narration. User motivations are usually exploration or regression. Due to the fact that audiovisual platforms such as episodes or interactive films as well as videogames allow, almost in their entirety, to alter the course taken by the user under the system of said platforms or, by circumventing the system outside the rules, an example has been chosen that makes it completely impossible to alter the decision taken due to its immediacy: the play *Night of January 16th* (Ayn Rand, 1936) in which the public takes part of the story by establishing itself as the jury that determines the final decision.
 - **ILLUSORY:** when the user is only allowed to go through some decision nodes, from among those presented as viable options at the beginning of the narration. For example, *Black Mirror: Bandersnatch* (Netflix, 2018), where certain ramifications only lead to dead-end paths, taking the user

back to that node, thus forcing him or her to choose the only viable option.

- TOPOGRAPHIC: the narrative and all its ergodic mechanics are fragmented by the story world. In this type of ergodic narrative there is no sequentially of plot, but the user can choose the rhythm of the narrative particles, without affecting the order of execution of the same to the development of the main plot. There is therefore a topographical route of the story, a spatial turn (Ryan 2016).
- OPEN TOPOGRAPHIC: where access to narrative particles is given from the beginning of the narration. A clear example of this modality could be found in sagas such as *The Elder Scrolls* (Bethesda), *Fallout* or *The Witcher* (CD Projekt Red, 2007-2015). All these videogames share a common characteristic, they fall into the open-world game category (also known as *sandbox*), the story is dispersed around the map and the player has plenty of freedom to shamble about all of it, although offered indications about what is supposed to be done and gone to so the story progresses. Another characteristic of these games is the presence of a main mission (usually referred to as quest) alongside several secondary one that serve to broaden the experience and deepening of the storyworld.
- CLOSED TOPOGRAPHIC: where access to narrative particles is given to the user as he or she develops and takes evidence through narrative discourse. Recent examples of this can be seen very clearly with the entire *Souls* saga, the first *Demon's Souls* (From Software, 2009); also, with such well-known franchises as *The Legend of Zelda: Breath of the Wild* (Nintendo, 2017). The first one is based on an intricate network of different interconnected areas; the second one has a more classical open-world approach, although certain areas of the map remain inaccessible through in-game narrative mechanics (such as skills or equipment requirements) that lead the player through a specific walkthrough.
- HEREDITARY: the mechanism of the hereditary narrative is organic in that it maintains a continuity in time where the different variations in the story world setting are maintained through the different deliveries of the same franchise. A clear example of this use is the case of *Mass Effect* (Electronic Arts, 2007), in which decisions can be made where relationships are established between characters or even between factions or races, in some cases even exterminating an entire race; in the case of having made that decision and inheriting the game saved for the next game, the race will continue to be extinguished in this second installment.

- HONORIFIC: Where ethical decisions allow the *teleuser* to travel some narrative paths and not others, depending on their ethical behavior during the narration. In *Detroit: Become Human* (Quantic Dream, 2018) if the *teleuser* constantly opts for the positive ethical option, all his decisions will lead him to help his fellow robots; on the contrary, if he makes violent or ethically reprehensible decisions, he will put an end to their mass extermination.

From a formal point of view, there are three main models:

- MULTIPLE CONNECTION MULTICURSAL LABYRINTHS: where the networked structure “is the existence of loops that offer several different ways to get to the same node. These loops make it possible to circle forever in the network. This explains why the image of the labyrinth and the notion of ‘book without end’ play such an important role in hypertext theory”. It is difficult to find examples of this type due to the complexity of the mechanical construction of the narrative, due to the fact that a non-linear and to a certain extent concentric design of the plot is needed, as well as a theme that allows, under the very ethos of story world, to lead the *teleuser*; video games such as *Stanley Parable* (Davey Wreden, 2011) or the interactive comic book *Meanwhile: An Interactive Comic Book* (Zarfhome Software Consulting LLC, 2011). These two examples have a looping behaviour inherently attached to its narrative, so even though certain ramifications are not intended to be pursued in a certain way, the game has its own system for redirecting the player to the right path in an organic method that is compatible with the immersivity.
- SYMMETRICAL: each decisive narrative node poses certain options that allow us to follow parallel lines that are not simultaneous and that end up returning to the same central line at a given moment. In this way the narrative multiplicity is temporary and transitory. Examples of this type can be found in video games such as *Knights of the Old Republic* (BioWare, 2003), where the decisions nodes can offer different approaches to a specific story section but with identical outcome nonetheless; anyway, the player does not perceive this indifferenciation in his or her decisions unless replaying that plot section.
- RAMIFIED: starting from a starting point in the plot, the plot line is segmented into multiple paths in the decision-making nodes generating an exponential branch of the narrative. Examples of this type can be recognized in video games such as *Beyond: Two Souls* (Quantic Dreams, 2013), which counts

with eleven different endings conditioned by the choices made regarding the life or death of other characters.

According to this taxonomy, it's proposed as a starting hypothesis that these categories are the existing ones, but they seem expandable in their combinatorics, as we will demonstrate below.

7. NEW ERGODIC PROPOSALS

Once the categorization of existing ergodic possibilities has been established, new proposals are disentangled here. After studying the different patterns of ergodic narrative, there are three coincident characteristics between all of them: the limited interaction of the user because the restriction of the narrative paths in terms of decision-making options; the need of familiarization of the user in the rules of these ergodic narratives acts in detriment of the natural interaction with the story, causing an artificiality in its consumption that acts as a constant immersion killjoy; and the general lack of empathy towards the involved characters. In order to improve these three points in the construction of audiovisual ergodic narrations, it's proposed the next two contributions.

7.1. *The Ergodic Transmedial Narrative*

Transmedial ergodic literature takes into account the new media and the latest technologies – such as social media, smartphones, streaming TV services, phone games, geolocation, etc. – available to the *teleuser* in order to transform his limited role from decision making to an acting role in the narrative, becoming an off-stage character of sort. This can be emphasized by the active mention of the proactive user in an anonymous role (or even personalized to the user's real name in certain mediums).

In the following paragraph it's suggested an exemplifying case: a character suspected of a murder, with a perfect alibi, so that the detective investigating the case does not have the necessary clues and discards it as a suspect. The *teleuser* has the option of scanning the social networks of that character to find something that the detective has overlooked, or hack into his smartphone and see his messages or geolocation at a given moment. Maybe on another

character's social networks you can see or mention something that doesn't fit with the suspect's version. These clues, if found, can be used by the user and sent to the detective to solve the case or to pursue that line of investigation (sophisticated game case).

In this type of ergodic structure, the main strategy for the narrative mechanism is to create different ergodic paths that the *teleuser* may or may not follow, offering different plot ramifications. The key is that in all of them there is a need to be some kind of active action performed by him or her, potentially depending on the abilities and skills or even the level of engagement with the content and how many narrative contact points is exposed to.

7.2. *Raccontian Ergodic Narrative*

The *raccontian* proposal is characterized by the application of alterations in the hidden layer of a storyline using the effect of the Schrödinger cat that, as is known, exposes, under the context of quantum physics, two opposing states that coexist simultaneously as long as this dilemma is not resolved. In one of the cases analyzed in this article, *Heavy Rain*, there is a figure of a character whose identity remains hidden until the final outcome of the plot itself (any of the seventeen different that can reach the player). Méndez (2014) raises in his article the problem of the invariability of the identity of the antagonist character of the video game; this assertion, however, is paradoxical given that an identity cannot suffer variations derived from the decision making of a third party when said identity has already been formed before the introduction of ergodic mechanics.

Ergodic decision-making dynamics are applied in *racconto* scenes (Rondolino e Tomasi 1995) to manipulate the timeline prior to the story world's starting point. This allows a greater diversification of outcomes by varying elements that usually remain inflexible and truncated.

8. CONCLUSIONS

After approaching these ergodic possibilities, we come to the conclusion that the ergodic narrative should not be only on the surface of the narration, but at the heart of it, as is demonstrated in the case of *Bandersnatch*. It cannot

be a mere formal and artificial resource not naturally integrated, since the reader-spectator is then when he accuses a series of problems derived from it, such as the lack of empathy, binarity and the limited implication of the user mentioned above. In this sense, the ergodic narrations should take as an example the interactive mechanics of videogames, which integrate in their more structural base the very nature of decision making and travelling around the world under the (to a greater or lesser extent) free will of the *teleuser*. In consequence, the ergodic television narratives, sometimes implemented into audiovisual transmedia designs, need to get close to the area of videogames, in the path of being more narratively sophisticated and interactive.

Added to the above, there is a common symptom derived from the lack of training by tele-users to navigate these mechanics. This fact limits the ability to generate a fluid integration of the ergodic structures in the narrative frameworks. This acts to the detriment of immersion and sometimes lusing attitude.

To conclude, the ergodic mechanics require (in most cases) a sophistication and complexity of the narrative structures that currently make it difficult to carry them out at the level of production in media such as cinema and television; however, it is observed as a characteristic sometimes *sine qua non* for the field of video games.

Future lines of research could study the possibilities and results implied by the incorporation of deep learning and the programmatic generation (Lupo 2003) of narratives in the field of audiovisual culture. These techniques, based on machine learning are very useful for the automatic generation of narrative paths for the user, creating almost infinite possibilities of narrative interactions for the users.

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