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Meta-Literacy in Gameworlds

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Abstract

This paper proposes the notion of "meta-literacy", understood as the player´s ability to navigate between spheres of reality and/or cross boundaries when interacting with a gameworld. We examine how meta-aesthetics functions in video games and argue that it is relevant at both the fictional level (intertextual literacy) and at the ludic level (self-referential literacy). The user will have to activate their meta-literacy in order to understand relationships between the levels of a video game, several different video games or the video game itself and "reality". We present examples in every category and show how players naturally navigate this complexity. We propose that meta-literacy works in this media as an ability to recreate a bridge between the ludic and the fictional, to use our game repertoire, and to connect disparate levels of reality in an aesthetic experience that is no less unified than that of other art forms. We'll conclude that accounting for meta-literacy is indeed relevant for understanding the pleasures of inhabiting not only gameworlds but also virtual worlds of all kinds.

Keywords: gameworlds, video games, meta-literacy, meta-aesthetics, self-referentiality, metalepsis.

Resumen. *Metaalfabetización lúdica en videojuegos*

Este artículo propone el concepto de «metaalfabetización», entendida como la habilidad del jugador para navegar entre las esferas de realidad y cruzar fronteras, al tiempo que interactúa con el mundo lúdico. Examinamos cómo funciona la metaestética en los videojuegos y sostendremos que resulta relevante tanto en el nivel ficcional (alfabetización intertextual) como en el lúdico (alfabetización autorreferencial). El usuario deberá activar su metaalfabetización para

comprender las relaciones entre los niveles del videojuego, distintos videojuegos o el propio videojuego y la «realidad». Presentamos ejemplos en cada categoría y mostramos cómo los jugadores navegan con naturalidad tal complejidad. Proponemos que la metaalfabetización funciona en este medio en tanto que habilidad para construir un puente entre lo lúdico y lo ficcional, para utilizar nuestro repertorio lúdico y para conectar niveles no semejantes de realidad en una experiencia estética que no resulta menos unificada que otras formas artísticas. Concluiremos que es necesario tener en cuenta la metaalfabetización para comprender los placeres de habitar no solo mundos lúdicos, sino también mundos virtuales de todo tipo.

Palabras clave: mundos lúdicos, videojuegos, metaalfabetización, metaestética, autorreferencialidad, metalepsis.

1. Introduction

The most iconic image of the film *Inception* (Nolan, 2010) is the spinning top that the protagonist uses to check whether he is experiencing reality or a dream. The film presents a virtual world which is more real than any created by a computer. Like other films that thematize the idea of getting into people´s dreams and inner worlds, such as *The Cell* (Singh, 2000) or *The 13th Floor* (Rusnak, 1999), *Inception* uses the dangers of perfect immersion as a plot device, since the characters will invariably face trouble when attempting to return to the physical world.[1]

In this paper, we propose the idea that gameworlds (Klastrup, 2006; Jørgensen, 2013, p. 3) embody the crossing of boundaries thematized by films like *Inception*, and that video game players become literate in boundary jumping. We call this ability "meta-literacy", and characterize it as **the player´s ability to navigate between spheres of reality/cross boundaries when interacting with a gameworld**. We will thus mostly be looking at games that have an important fictional level.[2]

We build our notion of meta-literacy inspired by the tradition of "media literacy", understood as an ability "to make sense of all media and genre" (Tyner, 1998, p. 113). Critical media literacy researchers insist not only on the importance of understanding the codes, but also on the motives and action range of both producers and audiences (Buckingham, 2006). Here, both production codes and audience awareness are in focus, as we explore the particular ways in which gameworlds engage player abilities to navigate complex integrated systems.

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1. In a science film like *The Matrix* (Lilly & Lana Wachowski, 1999), where the virtual world is not a mind but a computer simulation, the threshold object is a telephone booth, that could also be called a totem, where some sort of technical exit becomes possible, its logic never explained.
2. Although arguably, meta-aesthetic jumps and references are also possible in games with little fiction. For example, a geometric puzzle game could very well "quote" an older game by reproducing one of its successful mechanics, or include a fictionalized tutorial.

2. Meta and gameworlds: definitions and previous work

Video games are *meta* in two ways: a cultural/representational way which they share with all the other representational media, and a ludic way, specific to their medium (Jørgensen, 2013, p. 7).

Meta is a Greek prefix that was originally used to indicate changes of position or state, usually for things that went "beyond/through", in words such as "metamorphosis" or even "metaphor", which means "carrying over". Later, it was picked up by Roman Jakobson who identified the "metalingual" function of language, to allow language to talk about itself, so that we can always check that the code works/is understood (Jakobson, 1960).

The related idea of metalepsis, or a transgression of boundaries within the fictional world (Kukkonen and Klimenk, 2011, p. 3), has also had wide recognition in literary studies, mostly following Gérard Genette (1972). Marie Laure Ryan has further distinguished between rhetorical and ontological metalepsis (2006).

In everyday language, "meta" occurs when works of fiction refer to themselves, to the conventions of their respective genres or to their surrounding texts/commentary. There can also be extra-textual referentiality, that is, a text can refer to other texts, as in the phenomenon of intertextuality (Kristeva, 1966, in Alfaro, 1996), a very widespread practice in today´s popular culture. In fact, the familiarity of modern audiences with "meta" has been noted in relation to television and media generally, as part of the argument for the increasing complexity of media reception practices (Mittell, 2015).

Please note our emphasis on reception and experience. Being meta-literate often adds an extra thrill to the reading/watching; the public is rewarded, sharing the in-joke. All self-referentiality makes a rhetorical appeal to the audience (Dunne, 2010, p. 5).

Meta aesthetic strategies, called "metareferences" by Wolf (2009), have been mainly studied from a narratological perspective. But as others have noted before us, gameworlds afford their own kind of meta (Aarseth, 1997; Ryan, 2006; Harpold, 2007; Jannidis, 2009; Jørgensen, 2013, among others), which is unique in what refers to the ludic level, since games are aesthetic objects of a double fictional-ludic nature (Aarseth, 1997; Calleja, 2011; Juul, 2003; Tosca, 2003, 2005, 2013). There is no neat opposition of reality vs fiction as in the case of a classic text,[3] but a more complex picture which could be illustrated as follows:

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3. As for example Kukkonen describes in her model for metalepsis (2011, p. 9).
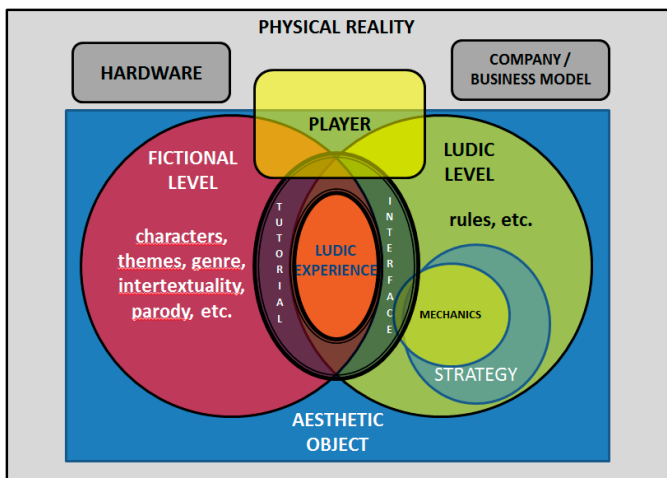
Source: Authors.

Consider for example the "idle animations"[4] in action games, when a character taps the ground with their feet, looking at you. The character is asking the player: "why are you wasting time?" In an action game, the player is supposed to act at every moment. Obviously, this is more than breaking the fictional fourth wall, as one would say in representational media, since the impatient character is inviting us to *play*. He is pointing at the ludic level from inside the fictional level, and requesting an action from us, not only as spectators but also as ludic actors. This happens because the ludic level is both fictional and real at the same time. This position is shared by the video game scholars who have (focusing on different nuances) dealt with the idea of meta in relation to gameworlds. Aarseth already identified the figure of metalepsis in 1997 when discussing point of view in games (Aarseth, 1997), in relation to the question of digital-textual ontologies, which is also the focus of Marie-Laure Ryan's work (Ryan, 2006). Both Aarseth and Ryan are well versed in narratology, which is also the strength of the articles by Navarro-Remesal and García-Catalán (2015), Mateas and Stern (2005), Harpold (2007) and Fernández-Vara (2010), which work with questions of diegesis and actant roles in order to understand the meta-phenomena. They concur that metalepsis in video games, far from being disruptive, actually recaptures the game itself as a familiar artifact for the player (Navarro-Remesal and García-Catalán, 2015).

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4. For example in *Sonic the Hedgehog, Genesis,* 1991; *Joe & Mac: Caveman Ninja*, arcade, 1991; *Star Wars: The Empire Strikes Back*, NES, 1992; *Spider-Man/X-Men Arcade's Revenge*, SNS, 1992; *Indiana Jones Greatest Adventures*, SNS, 1995.

The game studies researcher that has worked most extensively with meta-aesthetics is Kristine Jørgensen in her book *Gameworld Interfaces* (2013). She points to the interface as "the mediating layer between player and game system" (Jørgensen, 2013, p. 20), or the "threshold between two realities" (*ibid.*, p. 104), a liminal element that is crucial for the game experience. She focuses on the meta qualities of the game in relation to itself, on the gameworld as interface, and is less interested in the fictional level (*ibid.*, p. 70), that for her is only "functional" (*ibid.*, p. 75).

We build upon the work of these researchers, however, our focus is on reception (literacy) rather than narratology or the design of interfaces. The player is always in-between, managing a great complexity of combinations.

In this article, we follow an inductive method. We have, together, listed a great number of examples of meta-aesthetics in narrative games, which we have then analyzed and divided into categories. That is, our categories are derived from a previous empirical analysis. For reasons of space, each category is illustrated with one (or two) representative case(s).

3. Intertextual literacy

The term "intertextuality" was coined by Julia Kristeva (1966; 1966-67 in Alfaro, 1996) extending Bakhtin's concept of dialogism. Texts should be understood as traces and tracing of otherness, since they are shaped by the repetition and transformation of other textual structures, and not as self-contained systems. The term has, since then, developed in several theoretical directions,[5] but we intend to use it in its general sense of a text referring to another text (either directly or indirectly, with or without irony). Intertextuality can also happen between texts that share the same universe of reference, in which case we can talk of transmedial intertextuality (Klastrup and Tosca, 2004).

Intertextual literacy is thus the ability to decode the text´s relation to other texts. It creates (in the reader or player) a conscience of the text being an artifact related to other artifacts. The following sections present examples of different kinds of intertextuality in video games.

3.1. Gameworlds are connected to each other

Even apparently simple intertextuality can incorporate complex meta-aesthetics. Take, for instance, this achievement from the game *Prototype* (2009, Radical Entertainment):

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5. For a detailed approach on the issue, see Alfaro (1996).

Trail Of Corpses: Kill 53,596 infected. (30G)[6]

The achievement may be meaningless (or intriguing) to you: why exactly 53,596? The game *Left 4 Dead*, released the year before (2008, Valve), included the following achievement:

Zombie Genocidest: Kill 53,595 Infected. (20G)

It's exactly one zombie fewer than Prototype; but there is more, the video game *Dead Rising* (2006, Capcom) contains the following achievement:

Zombie Genocider: Defeat at least 53,594 zombies. (20G)

Dead Rising is a game about killing zombies in the little town of Villamette, Colorado, population: 53,594. We can now reconstruct the meaning of the achievements: in 2006, Capcom releases a zombie video game in which there is one particularly big achievement: kill 53,594 zombies, which is exactly the fictional population of Villamette. Once you've annihilated the entire town, the game will grant you the title of "Zombie Genocider". Then *Left 4 Dead* came out (a zombie-themed FPS), and Valve sent a message to Capcom: challenging you to kill 53,595 infected and granting you the title of *Genocidest*. *Prototype* only had to raise the stakes by asking you to kill 53,596 infected. Ultimately, therefore, it was all about rivalry in the game industry.

The joke is on the fictional level, but we need the ludic experience section to understand it (the achievement makes sense as a challenge only, a challenge meant to be undertaken while playing the game). This form of intertextuality involves other texts (games) but also extra-aesthetic objects from the physical reality (the game industry).

An important way in which gameworlds are connected to each other is in how they actualize or resist the conventions of the subgenres they belong to. Consider for example the genre parody found in the game *Icewind Dale 2*. At the beginning of the game, two NPCs will challenge you to a contest: destroy a keg with your bow from far away. "There's a barrel atop of the wall just to the north of us. You might not be able to see it at the moment with that strange fog that comes up, but it's there."

Icewind Dale 2 (as its predecessors) works with an exploration system based on the so called "fog of war". Every place your party hasn't explored will be covered in black on the map, in order to represent "unknown territory". As soon as your party approaches the unknown areas, this black layer will progressively vanish and you'll be able to see the terrain. At the same time, once you get away from a previously explored area, a "fog" blurring the terrain will appear on the terrain that is far from your party. This "fog" means that your characters don't get anymore real-time information about what's happening over there. This mechanic is most useful in RTS games, but also in RPGs like *Icewind Dale 2*. The one really unexpected thing is listening to an in-game character joking about it and pointing to its lack of logic from the diegetic perspective. The word "strange", points to the disconnection between game mechanics and diegesis: the fog of war makes little sense when taken as

6. (Title - description / instructions for the achievement - Reward value).

literal from a diegetic point of view, although it makes sense metaphorically or from a ludic point of view.

3.2. Gameworlds are connected to other media

Gameworld design is often inspired by other media, such as literature (*Lord of the Rings Online*, *American McGees Alice*), roleplaying games (*Vampire the Masquerade: Bloodlines*) cinema (*Lego Star Wars Adventure*), television (*Buffy the Vampire Slayer: Sacrifice*) or others. Intertextuality becomes not only a matter of quoting previous work, but of designing a way of play that is compatible with the spirit of the original work.

If we take, for instance, two video games inspired by Conan Doyle's Sherlock Holmes, we may immediately perceive intertextuality at work, not only in theme but also in the design. The main character in *Sherlock Holmes: The Case of the Silver Earring* faithfully portrays Conan Doyle's Holmes, with regard to his physical appearance and wits. As we play this point and click adventure, if we slide the mouse over a relevant clue, the pointer will suddenly become a magnifying glass, telling us we have found something important. However, most of the time, the glass won't actually magnify anything at all: by clicking, we will simply collect an item for our inventory. So, in essence, the magnifying glass acts as a semantic accessory, which appears because it is a big part of the Holmesian canon, and its presence will activate the Holmesian repertoire in the player's mind.

Almost everything said about the magnifying glass could be applied to the presence of the pipe in the interface from *The Awakened*, another Holmesian adventure from the same studio. Here, the pointer takes the form of a pipe to merely evoke Holmes' habit of smoking: the pipe serves no particular function, except for reminding us that we are using the Strategy Guide. Moreover, in *The Awakened*, Sherlock and Watson try to solve a mystery revolving around the Cthulhu Mythos, thus activating and mixing two literary works at once: Doyle's and Lovecraft's.

We cannot end this section without mentioning the third typical element from the Holmesian canon: his classical deerstalker cap. It appears not in game, but on the cover of *The Case of the Silver Earring*. Doyle actually never ever describes any such cap in any of his Holmes' stories. The deerstalker, as well as the calabash pipe, come from film and theater depictions, but were soon assimilated to the Holmesian canon, which is instantly activated by the player, mixing up texts from 3 different media.

3.3. Gameworlds are connected to the real world

So far we have kept the boundary crossing at the level of texts, of how gameworlds connect to each other, or to other media texts. But video games also offer the possibility of incorporating the reality outside the video game as a part of their fictions.

The Secret of Monkey Island is one of the most famous adventure games of all time; full of jokes and meta aesthetics like the one about the stump in the forest. If you use the command "look at" with a stump in a forest on "Melee Island", the protagonist, Guybrush, will say: "There's a hole at the base of this stump!", then "Wow! It's a tunnel that opens onto a system of catacombs! I think I can squeeze through." As the player delights in what looks like another exciting episode of adventures, the game will display the following: "Insert Disk 22 and Press Button to Continue". The request is confusing, since the game (which dates from 1990) contained just 4 or 8 disks (depending on the version); so no disk number 22 is to be found anywhere. Pressing any key will just get you another text asking for disk number 36, then 114, making quite obvious at that point that the stump episode is doing nothing but pulling your leg. In case it was not clear enough, Guybrush finishes by saying: "Oh well, I guess I can't go down there. I'll just have to skip that part of the game".

This is both a metalepsis (as Guybrush acknowledges he's inside a game), as well as a meta-joke resorting to a real element outside the aesthetic object: the hardware.

Another turn of the screw occurred when the company, *LucasArts Games*, used the previous meta-joke as an intertextually meta-meta-joke in *Monkey Island 2*: where Guybrush finds a cabin phone hanging on a tree, then uses it to call the LucasArts Games hint line. Among the questions you may ask is: "Who thought up that dumb stump joke?" To which the lady on the phone will answer: "I'm tired of hearing about that damned stump. Do you have any idea how many calls I get a DAY about that?" Whether people were actually massively deceived (and calling) or it was, instead, another joke, remains a mystery.

To sum up, in these examples taken from the Monkey Island saga, the references are to be found in the physical reality in the form of hardware or even a hint line. In order to display the complexity of the meta-aesthetics we'd need to place our model–including physical reality– (Figure 1) inside another bigger model, which in turn refers to physical reality (both players and hardware) inside the fictional and ludic experience.

FIGURE 2: NOT ONLY THE AESTHETIC OBJECT AS A WHOLE (*MONKEY ISLAND 1*) IS RECAPTURED AS A METALEPSIS IN *MONKEY ISLAND 2*, BUT ALSO THE PHYSICAL REALITIES SURROUNDING *MONKEY ISLAND 1* AND *2* (FROM LUCASFILM'S HINT LINE, TO THE HARDWARE THEY USED): THE MINI ARROWS POINT AT THOSE LEVELS INSIDE THE FICTIONAL LEVEL OF *MONKEY ISLAND 2*, WHERE THE METALEPSIS OCCURS.
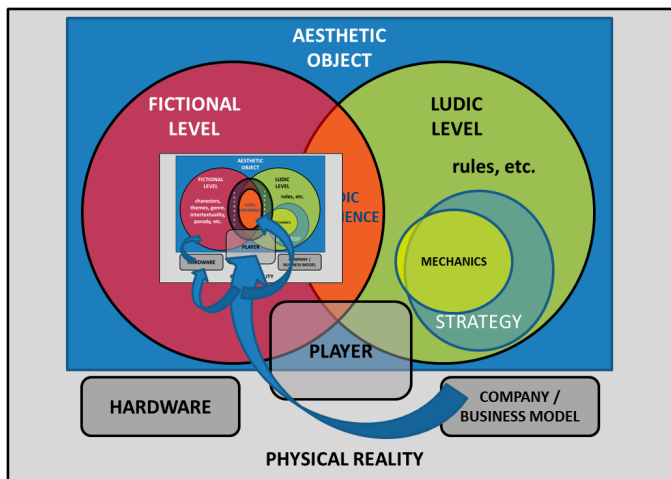
Source: Authors.

The many boundaries crossed in this example make the *Inception* dreams within dreams structure pale in comparison with Figure 2. Even so, players have no trouble navigating these complex waters.

3.4. Wrap-up: player repertoire

To understand how players relate to this collection of diverse knowledge, the notion of *repertoire* comes to mind (Tosca, 2003). The repertoire comprises "the references to earlier works, social and historical norms, etc. that the reader needs to actualize in order to have full understanding of the text" (*ibid.*, p. 209). In the case of gameworlds, the repertoire refers both to the necessary knowledge to play (ludic level) and to understand (fictional level); without it, the gameworld won´t be completely mastered, although it might still be pleasurable to interact with. The player´s repertoire is in constant flux, as every new game will add elements to it and actualize the old memories of mechanics, genre and themes; the link to our idea of meta-literacy is obvious, because both concepts are also ultimately about learning and framing. Intertextual metareferences are a part of the repertoire and, as such, engage the reader in a pleasant activity of connection and refreshing of memories. Jannidis has also stressed the pleasure that comes from decoding metareferences in gameworlds (Jannidis, 2009).

4. Self-referential literacy at the ludic level

Meta-strategies can also be a bridge between the ludic and the fictional levels of video games. An important use of metalepsis in video games is about making the rules of the games visible so that they become operational for the player. Jesper Juul had already remarked in 2003 that game fictions are incoherent in traditional terms, abounding in "clashes" between rules and fiction (Juul, 2003, p. 146). His example is that of the blue arrow that points to an object that can be activated in *Gran Theft Auto III*, a ludic sign that invades the fiction, but that doesn´t disrupt the experience.[7] Or as Jørgensen puts it, incoherencies like dying and living again "are accepted precisely because gameworlds work on conditions other than those in the traditional fictional worlds" (2013, p. 60). Each game has its own way of explaining its rules.

4.1. How the game trains us

The ludic experience is not instantly created as soon as the player enters the gameworld: there is a temporal factor to it. The "in-game, fictional tutorial" is a privileged element in educating players towards meta-literacy (Jørgensen 2013, p. 19). Take, for instance, this dialogue from the in-game tutorial for Call of Duty: Modern Warfare 2 (2009), where you are to learn how to fire:

> [The Sergeant is talking to the private recruits] - No offense, but I've seen a lot of you firing from the heap, spreading bullets all over the range. [...]

> "Press Right Mouse to aim down the sights of your weapon".

Indeed, if you just press the fire button (like in most FPS), you'll miss your target. Unless you press and hold the right click from your mouse before firing, you won't fire accurately because you won't aim.

Hence, you have to interpret that Sergeant Foley is actually addressing you, the player, via the narrative excuse of teaching young recruits: don't fire from the heap. Which in turn, should be translated on the interface level as "don't simply press the button "fire". You'll have to keep the right mouse pressed while firing in order to fire efficiently. We need connotation and denotation to correctly interpret the metalepsis. Once the player has become proficient in connecting the ludic level with the interface, he will no longer need the text or instructions (much like learning to ride a bicycle). The tutorial is actually a heavy barrier to entering the ludic experience, both from the ludic and the fictional sphere. So, any efficient tutorial is aiming to self-destroy itself at the end of the process, like Wittgenstein's ladder. This is not about the interface

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7. *Left 4 Dead 2* features a mode labeled as "Realism", in which the players and objects' silhouettes are removed. Without those ludic marks, the difficulty rises considerably.

becoming transparent, as that is neither desirable nor possible (Jørgensen, 2013, p. 31), but about the player having incorporated it into their repertoire.

4.2. Wrap-up: why is this done this way

At this point of our analysis we have to address the elephant in the room: do we prefer fictions rather than being told to "press the X button"? And also, in relation to meta-literacy: "why do humans enjoy and learn from crossing boundaries?"

The first reason is that this approach is more helpful, since fiction inevitably provides a meaningful context, fruitful for learning (Gee, 2003, 2004). Our brain is not as well wired to retain pure data/information, as it is to retain associations of images or narratives. Consider the very well-known mnemonic practice of the "memory palace".[8] A meaningful sequence of familiar images, places and mini-narratives proves itself to be easier to remember. In games, a story is easier to process than raw commands such as "C = compass". Again the emotional component in the learning process is key. The fictional bridge allows us to retain commands more easily.

Another reason could be that crossing boundaries arguably helps the player to quickly enter a state of flow (Csikszentmihalyi, 1990). Flow is defined as a state of concentration and satisfaction, so it keeps the player playing and prevents them from quitting early on out of boredom or frustration. The contrast between an in-game tutorial and no instructions but a control chart (as an extreme counter example) is remarkable in terms of flow, fast and steady learning and complexity.

A last reason could be that narratives are as essential to the human being[9] as playing, and every culture we know of uses myths to explain the origin of the world. In the West, however, as we grow, playing becomes a more and more stigmatized activity (Huizinga, 1938); engaging with fictions, on the other hand, does not. Maybe a story becomes a reputable mask for playfulness.

5. The Meta as an Aesthetic Strategy

There are also gameworlds where the crossing of boundaries becomes an aesthetic device in itself that pitches the fictional and ludic levels against each other in interesting ways. These kinds of gameworlds resemble the *Inception* initial example, where the player is put in a position of doubting the reality of what they are experiencing. They can also be related to a certain kind of

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8. Among many others (see Yates, 1966).
9. Anthropologists and philologists have long since studied recurrent patterns (thematic, formal and structural) in popular myths, fables or tales from every known culture. See Frazer (1926), Campbell (2008), Propp (1968).

postmodern fiction that throws into question its own reality, often coming with a "twist-in-the-end" that sets the whole fiction into a new perspective.[10] This technique is disruptive of fictional immersion, but at the same time also offers its own interpretive rewards. Gameworlds can also do this, incorporating the ludic level in the twist, and there have been recent and well-known examples, mostly with a fantastic theme, such as *Alan Wake,*[11] or *The Vanishing of Ethan Carter*.

In this last game, the player takes the role of Paul Prosper, an occult detective who arrives in the small deserted town of Red Creek Valley in answer to the letter from a mysterious lost boy, Ethan Carter. We control Prosper, and listen to his monologues, a *noire* voiceover that reflects over what is going on, helping the player to piece the story together. The detective finds different bodies and proof of terrible crimes, which he resolves by touching the bodies and objects and seeing visions of what happened. There are also a few puzzles to put together, and the player also finds pieces of papers scattered around that are the fantastic stories written by Ethan and connected to the crimes in strange ways. As Prosper advances in his investigation, it seems that Ethan's family had been trying to murder him (and each other) prompted by the possession of an evil godlike creature they refer to as *The Sleeper*, which Ethan is going to great pains not to "awake". In the end, when Prosper reaches the basement of a house where Ethan is lying, asleep, it is revealed that none of this was real. On the wall there is a map with all the crimes that Prosper has solved, now clearly identified as stories in Ethan's mind. In fact, Prosper himself is just a figment of Ethan's imagination, summoned because Ethan is trapped in a basement in a house that is on fire and he is about to die. His family is not dead, or murderous, they were just not very interested in Ethan, and are now outside trying to save him throwing buckets of water into the fire.

In this game, our small ludic quests (the solving of the crimes) are at last shown to be imaginary, merely connected to stories inside the mind of another character. This metalepsis shakes the fictional framework that we had been using to make sense of our ludic action during the whole game. In the end, none of it was true, and our character doesn´t even exist. The ending of the game forces a reinterpretation, a reframing of the ludic action in a new meaningful way, and judging by the heated, very literate, online discussions[12]

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10. The history of twisted end in narration is very rich (we could quote some just in films, previous to *The Sixth Sense*: *Planet of the Apes* (1968), *Under Suspicion* (1991), *The Usual Suspects* (1995), *Primal Fear* (1996). Aristotle names the figure "peripeteia" (although it may not appear just at the end) and gives the example of the tragedy *Oedipus Rex*, in which Oedipus discovers at the end that he is the actual killer of his own father that he's been seeking throughout the story.

11. Its metalepses have been examined by Michael Fuchs in "A Horror Story that Came True". Metalepsis and the Horrors of Ontological Uncertainty in *Alan Wake*", even though he doesn't think that games are really interactive objects, something we very much disagree on.

12. For example at: <http://steamcommunity.com/app/258520/discussions/0/616189106505896862/ and http://www.theastronauts.com/2014/10/vanishing-ethan-carters-ending-extreme-spoilers/>.

by players, this has turned out to be a rather controversial question, where players certainly exercise the critical capacity that is linked to a high level of media literacy (Buckingham, 2006).

5.1. The Question of Immersion and Presence

The questioning of reality occurring in games like the above example seems to inevitably point to the idea of immersion. Since video games are not only a representational medium, but also a ludic medium, immersion (understood as totally forgetting where we are)[13] is impossible anyway, because of the constant need for us to act. The concept of immersion is problematic because it has been used, as Daniel Vella notes, conflating two incompatible meanings, that of immersion as absorption and immersion as transportation (2015, p. 141). But even if we cannot call it immersion, there is, in Vella's words, a "sense-of-being-in-the-world" that for us would answer to our model, where a player is experiencing the ludic and fictional levels as one integrated whole. That is, the "normal" way of experiencing video games already presupposes boundary crossover; interacting with the game as "an unmediated activity is neither desired nor achievable if one wants the experience to remain a ludic experience" (Jørgensen, 2013, p. 35).

We might go as far as to say that the consciousness of the player is both inside and outside the video game at the same time, inspired by Katja Kwastek's theory of interaction of digital art. She has characterized the aesthetic process of engaging with interactive art as a pendular movement where we oscillate between action and contemplation, constantly changing position between being inside the work (operating/interacting) and outside of it (in classical contemplation of its aesthetic development) (Kwastek, 2013, p. 162). This resonates with our meta-literacy concept where players are engaged in constant boundary crossing, and also with Kirkpatrick's idea of the aesthetic process of game interaction being a rhythmic experience, similar to dance (Kirkpatrick 2011). Players have always known it, even since the first arcade machine asked us: "CONTINUE? INSERT COIN".

Meta-literacy is not disruptive. We can be engrossed in the activity of playing games *and* operating across several levels at the same time to begin with. Our model displays, after all, more than 10 areas which could be referential or referred from. It's only natural that closing boundaries and trying to keep equilibrium at the center of the model (the ludic experience) becomes second nature for the player.

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13. Salen and Zimmerman call this the "immersive fallacy" (2004, p. 450).

6. Conclusion: the value of meta-literacy

We have proposed a definition of meta-literacy, illustrated through numerous examples, and examined the different ways in which it plays out in relation to the fictional (intertextual literacy) and ludic levels (self-referential literacy) of gameworlds, offering the first unified theory of meta-phenomena from a player experience perspective.

An important realization emerged from the experience of putting all our examples together for the analysis: the discovery that meta-literacy also has a strong emotional value. Crossing boundaries such as the ones we have described above carries a pleasure of discovery but also of recognition (of the quotation, the game mechanics, or the reference to the hardware) which is not only intellectual but includes a bodily experience of play. Laughing at the joke of the "fog of war", we revive all the times that we have played strategy or roleplaying games before. It is not only a memory of something we have seen/read, but a memory of something we have experienced. Meta-references summon all the weight of the many past games, and that feels good. Meta-literacy also has a critical dimension, as the example of *Ethan Carter* shows.

Meta-literacy is above all, an ability to relate, to bridge the ludic and the fictional, to use our game repertoire, and connect disparate levels of reality in an aesthetic experience that is no less unified than that of other art forms, as Kwastek also suggests for all interactive art (2013). Accounting for meta-literacy is thus relevant to understand the pleasures of inhabiting gameworlds and virtual worlds of all kinds.

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