Principles of Procedural Hermeneutics

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Introduction

Ian Bogost has argued that one of characteristic features of computer games is their procedurality. What clearly distinguishes computer games from other media is that former express their message "through rule-based representations" (Bogost 2007: ix). Thus, by encoding systems of values in rule-based game mechanics computer games develop their specific way of persuasion, e.g. procedural rhetoric. However, theory of procedural rhetoric seems to be insufficient to answer how players relate to, resist, shape, or appropriate a game's values, for it takes a designer's position rather than a player's one. This lack of player-centered perspective in proceduralism has received some criticism (Sicart 2011).

In this paper I try to take a middle position between proceduralism and its critique. I propose to supplement procedural rhetoric with a new approach I will call procedural hermeneutics. By doing so, I seek to combine procedural approach with player-centered perspective. At one hand, procedural hermeneutics still considers rules the most characteristic trait of any computer game. Rules build up a text itself that a player has to interpret. At another hand, procedural hermeneutics answers how players interpret game mechanics without presupposition there was anyone who wanted to express something in these mechanics at all. For procedural hermeneutics the author is dead (Barthes 1967).

Procedural hermeneutics is based on the following principles.

First Principle: Video Games Are Multimedia

A player cannot interpret values embodied in procedures of a computer game independently of a visual, audial and/or verbal content of the game. For example, one can interpret *Kabul Kaboom* by Gonzalo Frasca as somehow evaluating the US' humanitarian help to Afghanistan only thanks to its visual appearance and verbal title. In this game, a gamer's avatar is a woman whose task is to catch food falling from the sky while dodging bombs. The game explicates the cynical nature of the US' humanitarian help to Afghanistan. Nevertheless, we could imagine a game where the player's avatar would be a bear catching salmon in a river while dodging poisonous snakes. It would be the same game from the procedural point of view, but it would contain no political message. A purely procedural content cannot convey a specific message. Similarly, *The Marriage* by Rod Humble apparently would not provoke any associations with marital relationships without its verbal title. I do not claim that we cannot interpret abstract games at all. Even if there are methods of interpreting abstract games via experiential metaphors (Begy 2013), these experiential metaphors may function only by means of their visual expression. Abstract game mechanics must look like jumping so that a player could experience them as jumping.

Second Principle: Understanding Requires Successful Performance

Interpretations of a computer game are valid only if they are compatible with an interpreter's ability to interpret the game. The understanding of a computer game's values follows the pragmatist method of differentiating between interpretation and overinterpretation, which Eco conceived theoretically (Eco 1992) and explored in his fiction (Eco 1989): interpretations must not contradict to an interpreter's being an interpreter. If a player takes a Koopa Troopa (a turtle-like enemy) for a friend in *Super Mario Bros.* she risks her ability to interpret the game further for she can lose (Arjoranta 2011: 6). This means she interprets the game in a wrong way. Some interpretations of a video game simply do not allow one to interpret it further because these interpretations make one lose a game. Thus, interpretation of values embedded in a computer game's mechanics requires finding at least one way to perform successfully in it, meeting its kinesthetic and nonkinesthetic challenges (Karhulahti 2013) in narrating environments of gameworlds (Vella 2011). (Although impossibility to perform successfully in a video game can be a rhetorical trick itself as in aforementioned *Kabul Kaboom* where a falling bomb will inevitably kill a player's avatar which shows the inescapability of the US' "humanitarian help"). A video game tells on its own if an interpreter's/player's prejudices about its message are valid and negates those of them that do not pass this hermeneutical examination. In this regard, procedural hermeneutics differs from classical Gadamerian hermeneutics (Gadamer 2004) in that the former provides a distinct criterion for deciding if these or those prejudices do or do not fit into the text's horizon: some interpretations simply make a player/interpreter incapable of playing/interpreting. It is not such a deep ontological question as whether a text's interpretation is a part of tradition of the text's readings or not as it is in the case of Gadamerian hermeneutics.

This idea connotates with the notion of real-time hermeneutics by Espen Aarseth (Aarseth 2004), who similarly stressed that a game responds to a player's anticipations about its meaning with acceptance or rejection of them. But my project of procedural hermeneutics diverges from the Aarseth's project in some key points. For example, Espen Aarseth regards a central issue that there is no temporal distance between understanding of a video game's procedural content and a process of playing the game itself. Aarseth claims that one cannot play a game at first and consequently start comprehending its procedural content, and that both of these processes allegedly occur absolutely contemporaneously. This is exactly why he called his project *real-time* hermeneutics. For example, as Aarseth would suggest, in aforementioned *Super Mario Bros.* the game requires that a player immediately regards Koopa Troopas her enemies, otherwise the play itself becomes impossible, and therefore understanding of gameplay turns out to be constitutive for gameplay itself. Thereby, Aarseth's real-time hermeneutics turns over the relation between configuration and interpretation that emerges when one considers a work of art or fiction. Aarseth takes this idea from Markku Eskelinen's paper which he quotes (Aarseth 2004, 5): "in art we might have to configure in order to be able to interpret whereas in games we have to interpret in order to be able to configure, and proceed from the beginning to the winning or some other situation" (Eskelinen 2001). If in a case of a fictitious literature one must start reading a text at first and consequently one becomes capable of interpreting it, then in a case of a video game one must understand its procedures from the very beginning, otherwise one cannot start configuring the game – one cannot start playing it, so Aarseth would suggest.

But the Aarseth's idea of real-time hermeneutics cannot withstand criticism against it, for there are a lot of types of temporality enacted in different types of playing games, which was well

shown by Arjoranta who criticized the notion of real-time hermeneutics and tried to improve it (Arjoranta 2011: 10-11). However, I do not think that this improving is an option for I can find a clear and distinct example where a player plays a game supposedly well for a considerable period of time, but then she suddenly finds that her way of playing was wrong and that she has to start playing the game from the very beginning. I do not think that one being of sound mind and body could regard this situation a situation of understanding a game in real time. Rather, in such cases understanding of a game occurs reflexively, when one loses a game, then takes some time to think why one lost and what the fact of one's losing tells one about the game and its gameworld.

So, there is my example which shows that understanding a game and playing a game do not always proceed simultaneously. Of course, I took this example from my own gaming experience – what can be closer to one's heart than one's own playing? So, at once I started one of my game sessions in *The Elder Scrolls V: Skyrim* playing for a wood elf and decided to develop a skill of alchemy which I considered suitable for my character. I was really astonished by the flora and fauna of Skyrim, so I started to collect all animal and botanical ingredients I could find and to read all the Skill Books on alchemy I could find. This should be taken literally: I did not simply open those books, so that my skill in alchemy would grow, I really read what was written there. And I supposed that the essence of alchemy in *Skyrim*'s gameworld consists in this process: one should collect ingredients, gain potions' recipes from Skill Books and craft them according to these recipes. Actually, it became almost the only occupation I dedicated myself to: I forgot about the main quest and side quests, and therefore I did not fight any enemy except some types of animals whose parts I needed to craft my poisons and potions. I became a kind of Skyrim's civil pharmacist without any military skill whether archery or one-handed weapon. Acting a considerable period of time in this way, I led my character to the eighth level but then I confronted a dragon and it turned out to be that all my potions as well as my archery skill were not potent enough to defeat it and I simply became incapable of playing the game further. As a result, I understood that I simply mistook the essence of alchemy in *Skyrim*. Firstly, I should have never read Skill Books, I should have read only recipes written on small pieces of paper, for content of Skill Books actually was irrelevant, which was the main reason why my potions were not so potent. Secondly, I realized that alchemy could not be a main skill for a playing character and that I should have combined it with archery which I failed to develop till the necessary level. Anyway, I had to stop that game session for I really ruined it.

The point of this story is that I understood that I could not play a game further *after a considerable period of time* during which I had already been playing it. One can play, spend a lot of time in a gameworld and realize that one understood the game incorrectly only after some amount of time. So, I diverge from the Aarseth's idea of real-time hermeneutics exactly in this point. A player has to attempt to play a game, make mistakes, fail and try again, and only then the player will be able to construct a valid interpretation of the procedural content of the game.

Generally, the main difference between my project of procedural hermeneutics and Aareth's project of real-time hermeneutics consists in that the former regards the process of intermittent trials and errors as a central component of gameplay whereas the latter puts it aside. I think it is a serious disadvantage of the Aarseth's approach: misunderstanding is constitutive for understanding, which always was a central theme for hermeneutics. Moreover, games, where a player interprets everything in a valid way from the very beginning and thereby does not fail at all turn out to be boring (Juul 2013), which means that failing is constitutive for play process and cannot be viewed as a kind of side effect.

Third Principle: Understanding Has to Do with Two Worlds

The understanding of a video game can be described as a process that passes through two spirals, a narrative one and a hermeneutic one. For this idea I am indebted to Arsenault and Perron (Arsenault et al. 2009)**,** but I diverge from them in some important issues. First of all, I do not think that the Arsenault and Perron's differentiation between heuristic spiral of gameplay and heuristic spiral of narrative is really helpful. For example, they state that the structure of gameplay or of the magic cycle consists of the game's output and the player's input. The player's input requires that the player has special analytical skills and implementation skills. Analytical skills are those that allow a player to analyze a game state properly and to choose the best variant of response to it. Implementation skills are those sensorimotor skills that allow her to realize an actual response: these skills let her successfully wield a controller or a mouse. The problem here is that the analytical skills always include such skills that allow a player to grasp some narration, so that narrative heuristic cycle is not the second cycle of gameplay but in fact an aspect of the common gameplay experience.

For example, Arsenault and Perron claim that *Tetris* and sport games are "abstract" and "non-narrative games" (Arsenault et al. 2009: 115). Apparently, Arsenault and Perron presuppose that narrative games are those that have a plot and a quasi-Aristotelian scheme of storytelling with culminative point where the tension comes to a critical point and where catharsis emerges (Aristotle 1996). But narration must not necessarily be a story similar to tragedies, novels and other pieces of fiction. There are wider notions of narration that can embrace more types of entities. For example, Bruno Latour and Steve Woolgar (Latour et al. 1986) claimed that that scientists are actually narrators: the main product of any laboratory is a text of research paper and any entity to be confronted in these texts can be viewed as actors of the stories that are told by scientists. Thus, thyrotropin-releasing factor (TRF) as well as lab mice used to display its action and equipment used to produce it can be viewed as actors in scientific narratives. By applying Greimas' narrative semiotics (Greimas 1987) to scientific texts Latour and Woolgar shown that any entity can become an actor in scientific texts, for Greimasian narrative semiotics can allow any abstract concept or object as well as human being to be an actor, for all of them are something "which accomplishes or undergoes an act" (Schleifer 1987: 88). In the story of *Batman,* Justice, for example, is an actor, for it is defined as an Object that a Subject (Batman) must bring to Gotham City (Receiver) (Beetz 2013: 7). Therefore, the nature of any actor becomes defined by its relations to other actors, by the fact of whether it acts upon another actor or is an object of others' actions.

And I suggest that we should make a similar move in game studies. I think that falling blocks in *Tetris* can be regarded as such actors in Greimasian sense, for they act a lot and undergo a lot of actions: they fall, they can be rolled, they disappear when forming a line with other blocks, they make one stop when reaching the top of the playspace. In sport video games we can observe the same thing: even in *Pong* a player confronts actors: ball, borders, rackets. I think sport games such as *FIFA* series even can form a kind of Aristotelian narration with intrigue, suspense and catharsis, when a player's team is playing tie with its computer opponent and at the last seconds of the game the result is defined: a player either looses or wins[1]. This means

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[1] It is not to say that we should start a kind of the Ludology-Narratology Debate 2.0. I think Bogost has already sublated the difference between these two approaches since the idea of procedural rhetoric (Bogost 2007) basically consists in that rules (which have a central meaning for ludologists) operate game procedures that convey a message (which has a central meaning for narratologists – if there has ever been a consistent narratologist who would have taken this approach seriously at all (Frasca 2003)).

that Arsenault and Perron's distinction between heuristic narrative spiral and heuristic gameplay spiral makes no sense. When understanding a game state and exploiting her analytical skills, a player actually comprehends a kind of narration that the game narrates to her, for in doing this she understands in what relations the game's actors stay to each other. Thus, I suggest that playing *Tetris* presupposes a significant amount of knowledge about its gameworld, about blocks, playspace and possible player's actions, which means that even abstract games refer to some fictional world even if its inhabitants don't remind any human or nonhuman inhabitants of the "real" world[2]. Therefore, any game narrates something through its gameplay and efficient performance in any game requires comprehending its narration. For this reason, I suggest that Arsenault and Perron's differentiation between heuristic gameplay spiral and heuristic narrative spiral makes no sense.

But I suggest that the Arsenault and Perron's notion of hermeneutic spiral as a distinct one is rather helpful. So, it seems to me that a process of playing a game can be well fitted into two cycles or spirals – into a narrative one and a hermeneutic one. Moving through a narrative spiral, e.g. fulfilling gametasks, fighting bosses, performing level up's, loosing and winning, a player explores a gameworld itself, but some players would not content themselves with merely doing it – they would love to know what the gameworld can tell about themselves and the world they inhabit. These (intellectualistic) players start to move through the game's hermeneutic cycle.

What troubles me in Arsenault and Perron's notion of magic cycles is that they place a hermeneutic cycle in a somewhat unclear relation to a narrative one. They depict a hermeneutic cycle as too attached to the narrative cycle. They locate their hermeneutic cycle into the common magic cycle of a game. One can see this on the scheme that Arsenault and Perron use in their paper (see Figure 1). The hermeneutic cycle depicted here as a deep grey vortex in the center is intertwined in a single loop of gameplay with the narrative cycle depicted here as a grey vortex that surrounds a deep gray vortex.
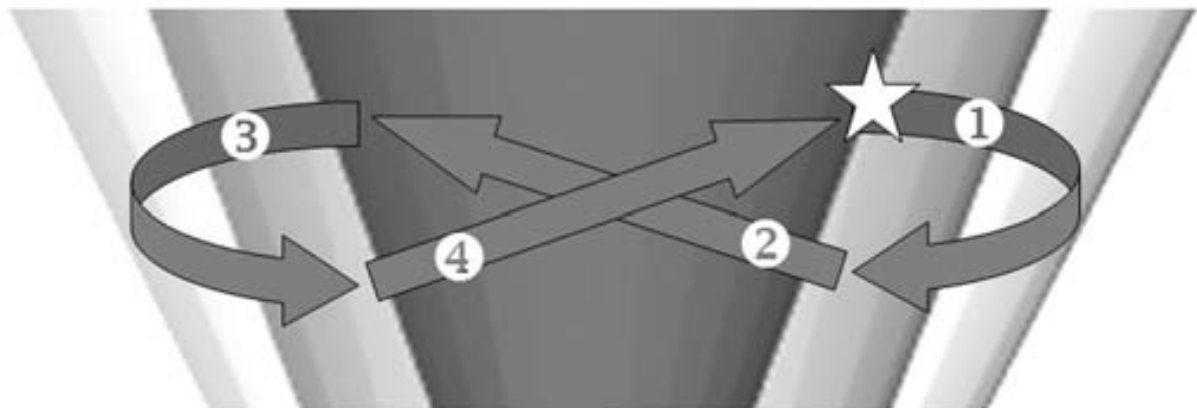

FIGURE 1. THE ARSENAULT AND PERRON'S DEPICTION OF A SINGLE GAMEPLAY LOOP (ARSENAULT ET AL. 2009: 120, FIG. 6.3).

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[2] It does not mean that any abstract game can be hermeneutically interpreted, for example, by means of experiential metaphors (Begy 2013). Hermeneutical interpretation of games relate their content to the world we live in, but any game always has a gameworld of its own, and this world can either be related to our world or not. We can simply play Tetris merely exploring its own gameworld or (mainly if we are scholars) we can find in Tetris metaphorical criticism of a modern urban development, thereby relating its gameworld to our own world. Anyway, when talking about narration by means of gameplay I mean only the former process, the latter is another process and requires special exploration.

But this would mean that a player's hermeneutic interpretations should be significant for a player's efficient performance in a game, for this turns a hermeneutic cycle into a part of common "inter(re)activity" (Arsenault et al. 2009: 120) that ties an exchange between game states and player who analyzes these states and implements her reactions to it. But, as Arsenault and Perron are themselves claiming, it is "possible to play *Super Mario Bros.* <…> just for fun and not see there a metaphor for being high on drugs, or of overcoming the hurdles of modern life with its instant consumerism mentality" (Arsenault et al. 2009: 117). This means that hermeneutic cycle does not have such a close relation to gameplay as the Arsenault and Perron's scheme depicted above supposes (see Figure 1). On the contrary, I think a player usually starts to move through hermeneutical cycle when she is making a break or already has finished the game and has a possibility to simply think about what the game has just told her about herself and the world. I think most scholars usually write their papers on capitalist or sexist biases in games not exactly *while* playing games, but *afterwards*. And I do not think this somehow contributes to their efficiency as players.

I think that the most helpful way to explain the relations between hermeneutic and narrative cycles is to use the Wolfgang Iser's notions of meaning and significance (Iser 1978: 150-151) which he himself inherited from Frege (Frege 1980)[3]. The Iser's idea is that the meaning of a fictitious text is an image that emerges in a reader's mind as she reads the text, while the significance is the way how the reader interprets the text's meaning. The fictitious text's meaning is intersubjective and universal to all possible readers while its significance that ties a text's fictional world to the real world can vary among different readers depending on their different social and historical situations. Thus, readers from different historical eras read the same *Divine Comedy* by Dante (Alighieri 2013) and build up the invariant images of the Hell, Heaven etc. in their minds, but Dante's contemporaries would easier interpret them as a call for the Italy's unity than today's readers. But, nevertheless, significance cannot get out of the frames that text establishes by means of its meaning's structure, which restricts the freedom of interpretations.

Similarly, narrative cycle builds up a game's meaning while hermeneutic cycle introduces a game's significance. Narrative cycle builds up an intersubjective gameworld, that is common for any possible player and where different types of actors are defined by their relations to other actors, whereas hermeneutic cycle does not simply tell something about gameworld but ties it somehow to the real world. And, again, it depends on a player's social position how she interprets a game and whether she interprets it at all. For example, a postcolonial scholar would interpret *The Sims* as a depiction of WASP notions of how suburbs must look (Curlew 2005), while a postmarxist scholar would find there some consumerist, late capitalism biases (Sicart 2003). I think that the most people who seriously interpret games[4] are video games scholars, so it also may be a kind of a social role that amplifies the probability of hermeneutic attitude to games. And, finally, as well as in the case of fictitious texts, one can interpret a game only in such a way that is allowed by its meaning, which means that a player can hermeneutically interpret a game only if she has played it and has built up a significant amount of knowledge about its gameworld by moving through a narrative cycle. This means that not any interpretation of a game is valid. It is possible to admit only those interpretations valid that do not contradict to successful ways of playing it, which again turns one back to the principle I have earlier

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[3] I think that Arsenault and Perron's use of Jauss' concept of horizon of expectations is really fruitful (Arsenault et al. 2009: 118). It seems that game studies can benefit a lot from receptive aesthetics as a whole.
[4] Unless it is not about serious games or newsgames that are intentionally made in such a way that they provoke hermeneutic interpretations.

proclaimed: interpretations of a computer game are valid only if they are compatible with an interpreter's ability to interpret the game.

Fourth Principle: Understanding Requires Communication with Non-Humans

Procedural hermeneutics tries to answer the question of how one can build up a meaning and significance conveyed by a video game. According to the second and third principles, one can do it only by performing successfully in a game. But successful performance in a video game is impossible without grasping the logic of a program that runs the procedures in the video game. Thus, **the fourth principle of procedural hermeneutics is that understanding a message of a video game requires understanding of the logic of the program confronting the player while she is playing**. This is why understanding games as played calls for understanding "the materiality of the game artefact involved" (Leino 2009: 7).

Simon's (2007) example of *Call of Duty 2* is of use here. One can hardly perform successfully in Call of Duty 2 if one tries to act on one's own. Successful performance requires cooperation with friendly soldiers. This way a player grasps the main message of *Call of Duty 2*: "One can never win the war without allies". Nevertheless, the actions of the non-playing characters who are player's allies in *Call of Duty 2* differ too much from the actions of real soldiers. The NPCs get stuck in front of a wall and a player has to come back to show them a roundabout way, they shoot an enemy even if a player's avatar is in the firing line, etc. The logic of their actions is not human logic but logic of non-human actors, i.e. of programs. Thus, a player needs to understand the reasoning of non-human actors in order to build up the meaning of a video game.

Moreover, as I suggested earlier, interpretation of video games have a structure of intermittent trials and errors, by means of which a player's nonvalid prejudices get rejected by a game's response to her actions and valid interpretations finally get shaped. But this actually mean that understanding of a video game has a dialogue form, which has been a long-playing theme in history of philosophical hermeneutics (Gadamer 2004): a game poses a problem to a player; a player proposes her anticipations about its possible solutions; a game answers either by accepting or correcting or fully rejecting them, therein posing a new question to a player. This means that understanding a game requires communication with non-human Otherness.

Conclusion

So, now I can summarize the principles I want to put in the basis of procedural hermeneutics:

1. A player cannot interpret values embodied in procedures of a computer game independently of a visual, audial and/or verbal content of the game. Video games are multimedia. However trivial it would not sound, but I should make this remark to avoid some misunderstandings that could occur due to the title of my approach.

2. Interpretations of a computer game are valid only if they are compatible with an interpreter's ability to interpret the game. But this does mean neither that one should first understand a game to play it nor that processes of understanding and playing must proceed contemporaneously. There may be multiple temporal modes of playing-understanding relationship.

3. The understanding of a video game can be described as a process that passes through two spirals, a narrative one and a hermeneutic one. Narrative spiral builds up a game's meaning while hermeneutic spiral introduces a game's significance. Narrative spiral builds up an intersubjective gameworld, that is common for any possible player and where different types of actors are defined by their relations to other actors, whereas hermeneutic spiral does not simply tell something about gameworld but ties it somehow to the real world. It depends on a player's social position how she interprets a game and whether she interprets it at all.

4. Understanding a message of a video game requires understanding of the logic of the program confronting the player while she is playing. This logic may sharply differ in many ways from what we consider to be a human logic. Since understanding a game has a dialogue form, I claim that this understanding requires communication with non-human Otherness.

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