Published on *the living handbook of narratology* (http://www.lhn.uni-hamburg.de)

Narrativity of Computer Games

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Created: 11. March 2014 Revised: 22. April 2014

1 Definition

Narrativity can be understood as a virtual capacity of computer games. Like every game, computer games consist of rule-governed actions carried out by a player. But they may also contain elements typical for narratives: actions, events, characters, and a setting. If these elements are arranged in a story-like order, a computer game possesses narrativity (Abbott → Narrativity [1]). Additionally, computer games, in contrast to other games (such as ball games or chess), integrate a representational level depicting the player's actions in the game world and the player herself in the form of an avatar who acts within this world. This representational level can be compared with the level of narrative discourse.

2 Explication

As to the narrativity of computer games, one of the important questions concerns the relation between the ludic and the narrative and their relative proportions. This interrelation has been defined in a spectrum of positions, ranging from the conception that computer games are narratives (Murray 1999) through the assumption that computer games contain narrative structures or elements (e.g. Neitzel 2000; Aarseth 2004a; Juul 2005; Ryan 2006) to the denial of any narrativity in computer games (Eskelinen 2001).

Narrating and playing are both very old and fundamental forms of human expression and culture (cf. Huizinga [1938] 1998; Barthes [1966] 1977). They have sometimes been combined, as in the theater where a story, previously written down as a drama text, is not told but performed by actors, or in the cinema, where the projection of the film shows what was previously recorded (including the performance of the actors). Both media—theater and cinema—have been discussed with respect to their narrativity (Hühn & Sommer → Narration in Poetry and Drama [2]; Kuhn & Schmidt: → Narration in Film [3]). These discussions have mainly focused on discourse or the level of (re)presentation, i.e. diegesis rather than mimesis in respect of drama (Plato 1979), or on telling rather than showing in respect of film (Branigan 1984). Discussions on filmic narration in particular have raised the

question of whether film possesses a narrating instance (cf. Bordwell 1985; Chatman 1978, 1990; Gunning 1994; Gaudreault 1984). This question reappears in the discussion of the narrativity of computer games (cf. Laurel 1991; Neitzel 2000, King & Krzywinska eds. 2002), but it also raises another one: What is the role of the player? While in the theater and in the cinema the spectators are excluded from the production of the play or film, respectively, in computer games they (as players) are an indispensable part of the production of the chain of actions displayed on the computer screen.

Hence the study of the narrative potential of computer games is led to specify how the ludic and the narrative interact, thus producing the concrete medial form of a computer game. The relevance of this question results from the premise that the ludic and the narrative are different or even incompatible forms. Narrative is traditionally defined by its linearity and chronology: it presents a story (*histoire* in Genette's 1972 [1980] terms) with a beginning, a middle and an end (Aristotle 1995), and its events proceed successively. Bordwell (1985: 49) defines the story as "an action as a chronological, cause-and-effect chain of events occurring within a given duration and a spatial field." This story is transmitted through a discourse (*récit*), which is the result of an act of narration. Games are defined differently from narratives: by repetitions (Buytendijk 1933, 1958) and recursions (Scheuerl [1954] 1990), or as a self-reflexive movement that falls back on itself with no reference to anything beyond its borders, be it factual or temporal (Scheuerl ([1954] 1990). While in a narrative someone (a narrator) recounts actions, a game consists of actions carried out by the players.

3 History and Aspects of the Study of Narrativity in Computer Games

Depending on the starting point one chooses, computer games date back between forty and sixty years. The year 2001 was pronounced by Aarseth (2001) year one of game studies, thereby inaugurating a new discipline. The following sections will start with a brief historical overview of computer games and then take up recurrent questions on the subject. Owing to the differences within the field of computer games, the research questions are in some cases accompanied by descriptions of computer game genres or individual games.

Research on a new medium on which there have been studies either draws on established methodologies or refers to (assumed) similarities in other media. Since narrative is a large and influential part of our culture present in various media (Ryan → Narration in Various Media [4]), it seems reasonable to assume that computer games tell stories as well. A story-like order of the game events displayed on the

computer screen may resemble visual narration in film. For this reason, the study of narrativity in computer games has played a prominent role in the emergent field of game studies.

3.1 Pre-history: Hypertext Studies

Experiments with hypertext in the 1980s and 90s inspired the exploration of possibilities of ”interactive storytelling” as a new form of narrative in digital media (cf. Bolter 1991; Landow 1992; Landow ed. 1994). The study of hypertexts was extended to include verbally based computer games, the so-called text adventures. In this tradition, computer games are seen in connection with other texts based on computer technology. The main emphasis still remains on the text and the changes it undergoes (e.g. Ryan ed. 1999). Murray (1999) includes computer games in her study of narrative in cyberspace by observing them with respect to their narrativity, along with chatterbots (computer programs that simulate communication), Multi-User-Dungeons (text-based fantasy games played on the early internet), 3-D movies and finally the holodeck (holographic simulation, which became famous in the *Star Trek* series). Laurel (1991) examines computer applications and interfaces using the metaphor of the theater and drawing on Aristotelian drama theory. In her study, computer games represent only one application among others. One of the most insightful studies in this tradition is Aarseth (1997). This work analyses the differences between various types of text underlying the changed role of the reader in cybertexts, where the reader not only participates in the construction of meaning but also in the construction of the final text itself. His focus, however, remains on verbal media, and apart from an excellent analysis of the text-adventure, computer games are not discuss.

3.2 The Ludology vs. Narratology Debate

The question of narrativity in computer games led to the first major debate in game studies, the starting point for a general survey of the field. The spectrum of approaches in this debate, the so-called Ludology vs. Narratology Debate, ranged from euphoric affirmations of the new possibilities of storytelling (Murray 1999) to outright denial of the narrative quality of computer games (Eskelinen 2001). Even though studies on narrativity in computer games fell (and still fall) far short of forming a school, a vehement and often polemical body of criticism was directed at

studies that saw the computer game as one possible form of future storytelling or that simply treated the computer game as a new narrative medium. On the one hand, this criticism had a “political” dimension motivated by the fear that established disciplines such as literary or film studies would incorporate computer games into their own territories, treating them as derivatives of literature or film. On the other hand, this critical position argued that computer games are first and foremost games, and that methods developed for the study of literature and film are insufficient to deal with their specifics (Aarseth 2004b: 362).

Both positions—simply treating the computer game as narrative or negating any relation between narratives and games whatsoever—are too narrow in scope. In the first case, there is a danger of overlooking differences between games and narratives. The second position, by contrast, risks disregarding similarities between computer games and narratives. Not every game has the same structure, computer games being structured differently from ball games, for instance. Common to both positions is that they one-sidedly isolate one single dimension to the exclusion of all others, an approach which fails to acknowledge the specifics of the computer—namely, the fact that the computer is a hybrid medium that integrates various forms and media—and in so doing dissolves distinctions between them (cf. Thomsen ed. 1994). Digital memory and processing mechanisms allow the computer to adapt an almost unlimited number of surfaces to equally innumerable functions as well as to integrate and modify the structures of other media (cf. Bolter & Grusin 2000; Manovich 2001). The computer as toy (Sutton-Smith 1986), and the computer game, must be described with reference to this dissolution of boundaries and integration of various elements. The fact that computer games are games by no means excludes them from having narrative qualities. There are common, trans-boundary elements both in computer games and in narratives, and there is a transition zone between narrative and non-narrative computer games. In the meantime, the topic of narrativity has become just one question among others in the field of game studies. To name only a few further research aspects: player studies, involvement, interface studies, space in computer games, online games and sociality, gamification, serious games.

3.3 Degrees of Narrativity

Computer games show a wide variety of forms and genres. They can be subdivided into abstract and mimetic games: games of skill (*Geschicklichkeitsspiele*), which demand dexterity from the players; and puzzle games (*Denkspiele*), which demand cognitive skills and decision-making. These groups overlap. Some games use abstract graphic elements that have to be arranged in a certain order or assembled like a puzzle. In other games, with abstract graphics, the dexterity of the players is

important, as when the game elements have to be thrown or shot. Related to the latter are so-called shooters, which demand dexterity in a representational game world.

As to the narrativity of computer games, it is also important to consider whether the player's role is to direct a single game element (anthropomorphic or otherwise) or a group of elements. While computer role playing games, (action) adventures and action games fall in the first category, various sorts of sports games, (economic) simulations or strategy games (in which teams or armies are directed) belong to the second.

Additionally, computer games are played on mobile phones, handheld or TV-connected consoles, the computer or on arcade machines. They are played alone, together with friends (in one room) or with strangers (and/or friends) on the Internet. And finally, in the history of computers the mode of representation has evolved from games that are only text-based (e.g. *Zork,* infocom 1977) or games with simple graphics (e.g. *Pong*, Atari 1972) to games with a representation that is almost cinematic. Text-based games and games with simple graphics continue to exist in niches.

When the interest lies in the narrativity of computer games, it is common not to include all types of computer games. Different genres of computer games have different degrees of narrativity. Thus most abstract computer games lack narrative qualities (Ryan 2006; Aarseth 2004b), since narrativity presupposes the presence of "characters, event, setting" (Ryan (2006: 182).

3.4 Storystructures in the (Action)Adventure Game

The genre of the adventure (or action adventure) game has been studied with respect to its narrativity (see e.g. Neitzel 2000; Wolf 2001; Walter 2001; Hartmann 2004). Two features in particular qualify adventures for a narrative analysis. First, in adventures the player directs a single avatar in a representational setting and not, as for example in strategy or team sports games, a team or an army. Second, adventures provide a relatively linear chain of actions and offer explicit points for the player to make a decision. They are, in Pias' (2002: 184) words, "decision-critical." In the classical adventure, neither the execution of these decisions nor how fast they are made on the cognitive level is important, so that neither dexterity nor the speed of reaction are the point of the game but the decision and the consequences it provokes.

Juul (2005: 67) calls games in which a player has to follow a consecutive chain of

actions “games of progression” because they set up challenges for the players one after another up to the end. “Games of emergence,” on the other hand, set up challenges for the players indirectly through an interacting set of rules and do not have a fixed end state but one that evolves through the actions and decisions made in a game session. Many games incorporate a mixture of the two forms.

The lines of action that evolve in a game are twofold. There is the possible chain of actions determined by the program which Thon (2011: 16), drawing on Rouse (2001), calls the “virtual designer-story,” and there is the actual chain of actions that is set up by the player while she is playing, the “player story.” Adopting a term proposed by the Russian formalists, Neitzel (2000) has defined the latter as the “sujet” of a narrative game, because it is only here that the actual order of events is determined.

The progression of the virtual story in (action) adventure games is programmed according to a narrative structure that Todorov ([1971] 1971) has called the mythological story structure (cf. Neitzel 2000).

Games with a mythological structure provide players or their avatars with a clearly defined aim that marks the end state of the game (e.g. “Rescue the Princess!”). The path to this aim can be arranged differently from one game to another. A classical narrative can use a linear path to this end: starting at the initial situation, a linear chain of events and actions leads to the end of the story. A game organized like this offers a very limited degree of freedom for the player: she does not have any choice, which makes the game rather boring, or, more precisely, there is no game at all because a game must offer at least two options. According to Ryan (2006: 196), the conflict between narrative design and gameplay is rooted in the “difficulty of integrating the bottom-up input of the player within the top-down structure of a narrative script.”

Computer game programs almost always contain infrastructures that enable the player to actualize multi-linear chains of actions and events. This means that between the starting point and the endpoint of the game there are alternative paths or chains of events from which the player may choose. In a multi-linear story (Murray 1999: 188), there can be crossroads or dead ends that force the player to return to another path. Other paths may lead back to the main path in loop lines (Wages et al. 2004; Ryan 2006 102–3). In many games, these paths are realized spatially, forcing the player to orient herself in the fictional game world, cross this world and meet the challenges that lead to the goal.

Linear and multi-linear story structures have in common that, in most cases, they lead to a single endpoint or, in the case of a multi-linear structure, to one of several

possible endpoints. A structure with multiple branching paths that leads to an indefinite number of endpoints would not be programmable. To avoid this problem, dead ends and loops leading back to the main path are integrated (Wages et al. 2004).

To enhance the unpredictability and uncertainty necessary for playing, these structures of action lines can be supplemented by requirements for skill and speedy reaction on the part of the player. In addition to an overall line of action, computer role playing games usually contain numerous short linear action lines. In the game world, a player encounters Non-Player Characters (NPCs) who provide her avatar with quests and tasks. Depending on the particular game, the player has to accomplish the quests either successively in a linear order to progress towards an end state or randomly in a network-like structure. To perform the tasks, the player must kill a certain number of the enemy, find objects, visit a particular place, or perform similar clearly defined actions that require a certain skill. After completing the task, the game character returns to the quest-giver, is given her award and possibly a new quest. Retrospectively, the quests can be interpreted as little stories: e.g. “The avatar has retrieved the food stolen by the Orcs and rescued the inhabitants of the village.” But as Aarseth (2004b: 369), in reference to Tronstad, emphasizes, while the story has a constative quality, the quest itself is performative, acted out.

Quests in role playing games are often integrated into fantasy stories involving a fight between good and evil. These framing stories are conveyed to the player in scattered parts and in different modes of representation: verbally at the beginning of the game or through quests; by monologues of NPCs, visual cut-scenes, books found in the game; or, on a paratextual level, by printed supplements, possibly novels or movies about the game but also by fellow players. Other parts of the mythology may be known through former games. As in myths, no clear origin can be identified. It has often been observed that these multiple stories and story fragments add to the narrativity of computer games (e.g. Ryan 2006; Jenkins 2004; Pearce 2004).

The second underlying narrative structure that can be found in (action) adventure games is the gnoseological structure, a form that does not provide the players with a clearly defined aim (cf. Neitzel 2000). Todorov ([1971] 1971) defines the Parsifal-saga as the prototype of a gnoseological narrative. These narratives are about the search for meaning and, in contrast to mythological narratives, have an ending that is unforeseeable from the beginning of the narration and tends to point back into the past. This becomes obvious in Todorov’s second example, the detective novel, in which the protagonist tries to find out what had happened. With regard to computer

games, this structure can be found mainly in adventure games. An early example is *Zork*. In this game, the player is thrown into a situation in which she does not know what to do, where she is located and what the environment looks like. The player never knows which events are relevant for the solution of the game (see Aarseth 1997: 112). No concrete clues are given on her way as to how to find the solution. Uncertain about which storyline to follow, the player's first task in an adventure game is to get a sense of the world and the situation. Thus the more or less successful attempts of a player to navigate in the game world differ enormously from the well-considered constructions of narrative discourse generally found in literary narratives or films. The player's path through the game can be considered a search for meaning. In contrast to action games, usually backed up with a mythological structure, the player of an adventure game is not given a clear aim as to how orient herself within the game (Neitzel 2000).

3.5 Separation of Narration and Play

The player's participation in the act of actualizing these virtual story lines has led to another tendency in studies of narrativity in computer games: the separation of phases of play and narration (e.g. Furtwängler 2001; Walter 2001) or of ludic and narrative elements in a computer game (Newman 2004: 93–4; Thon 2007, 2011). So-called cutscenes, which are fully pre-produced and in which players cannot intervene, are the narrative phases of the game, while scenes in which the players can intervene (and must intervene to get the game going) are the ludic or interactive phases. The ludic and the narrative are often considered incompatible (Walter 2001: 302). Significantly, scenes in which the player can intervene do not have a name of their own. While "cutscene" is an established term, "playscene" is not. The playscene represents the normal case whereas the cutscene is something special that has emerged recently in the history of computer games and in need a discriminating term. Cutscenes are usually found at the beginning of a game where they constitute the exposition, introducing the place and time of the actions, the protagonists and possibly their aims. Additional cutscenes, interspersed in the playscenes, often mark turning points in the game's underlying story, while in the playscenes the players carry out a relatively fixed chain of actions. At the end of the game, there is often a last cutscene, an epilogue which marks the end of the story and the game.

The model on which this separation of narrative and ludic elements is based can be traced back to Barthes' differentiation between cardinal functions and catalyzers ([1966] 1977). It acts upon the assumption that cardinal functions, which propel the game forward, are found in cutscenes, while playscenes contain only catalyzers. This means that the decisions which are important for the course of the pre-

programmed story are not made by the player but provided to her in the cutscenes (cf. Pias 2002).

Even if the act of narration, in the simplified sense of setting up a fixed chain of actions, might take place only in the cutscenes, the narrativity of computer games is not restricted to them. The playscenes are meaningful for the cutscenes and the story of the game: they tie in with the events and elements in the cutscenes. They provide information on the progress of the action, contain the same figures and are set in the same environment. In some games (e.g. *Blade Runner* [Westwood 1997], *Silent Hill II* [Konami 2001] or *Fahrenheit* [Quantic Dream 2005]), the choice of a particular cutscene, which is executed by an algorithm within the game program, depends on the decisions a player has made in the preceding playscenes. The construction of meaning necessary for a story thus takes place in the playscenes. However, although it is true that a player does not play in the cutscenes, some games (e.g. *Half Life* [Valve 1998] or *Metal Gear Solid – Snake Eater* [Konami 2004]) offer the opportunity for the player to intervene in the cutscenes and to change the perspective of the virtual "camera," for example, which indicates that the avatar is looking around in the game world.

Backe's (2008) model is also concerned with the construction of meaning. He separates game and narrative as well. However, in contrast to the approach mentioned above, this separation does not apply to the level of the game's syntax; instead, he transfers the narrative of a computer game to the level of its reception or interpretation. Backe develops a model with a trichotomy of sub-, micro-, and macrostructures in which he distributes narrative and ludic elements. These structures are distinguished into world-rules (substructure), aims of the game (microstructure) and meta-rules (macrostructure). While on the level of substructures the ludic *paidia* (a free form of play (Caillois [1958] 2001) is enacted, which means that players can explore the game world more or less freely, the second level (microstructures) is the reign of *ludus*, which defines the aim of the game as well as the conditions for winning. Finally, the third level (macrostructures) is determined by narrative principles. This level, according to Backe, belongs to a second-order game, a game of interpretation or reception.

Backe's model of the ludic and of the second-order narrative game (the game of reception or interpretation) separates levels that interact in the computer game. The construction of a story may take place in the player's interpretation of the game, but the possibilities for this interpretation are given—"pre-formed" by the game's program.

3.6 Spatial Narration

The pre-design of a possible story is the basis for “interactive storytelling” (cf. Crawford [2004] 2013). A digital environment is established in which players can intervene and decide, within given possibilities, which events or actions to actualize. The aim of interactive storytelling is to make the players choose precisely those possibilities which will form a story-like line of actions and events (without letting them know that they are guided in a certain direction). Focusing on the environmental qualities of interactive storytelling, Jenkins (2004) suggests that one should think of game designers not as storytellers but as “narrative architects” (129). “Game designers don’t simply tell stories; they design worlds and sculpt spaces.” (121)

In this regard, interactive storytelling and computer games are conceptually related to possible worlds theory and practice (cf. Pias 2002: 183ff.; Ryan 2001: 99–105). Like possible worlds, computer games work in the subjunctive mode: they pre-form possibilities of what can actually happen in a digital environment. For Ryan (2006), who employs a relatively broad definition of narrative (“capturing a fictional world that evolves in time under the action of intelligent agents is all it takes for a semiotic artifact to fulfill the semantic conditions of narrativity”; 200), this qualifies a computer game as narrative.

On the basis of such a broad definition of narrative, even other computer games apart from action and adventure games would qualify as narrative. This applies to the so-called “Sandbox Games” (Squire 2008), for example, which allow players to do just anything in a virtual environment. Some games mix sandbox elements with a more rigid progression of events. In the very popular *Grand Theft Auto* (*GTA*) series,the players (apart from fulfilling missions) get the opportunity to drive in a stolen car through the *GTA*-cities and listen to music (in each game, different radio stations are offered). Thus, since the publication of *GTA-Vice City* (Rockstar Games, 2002), “cruising” has become the activity these games are known for.

Furthermore, games of emergence (see § 3.4 above), in their form as world-building games (in computer game genre terms: simulations), would also count as narrative if Ryan’s (2006) definition of narrativity is employed. These games, which have been associated with Todorov’s ([1971] 1971) third category, the ideological structure (cf. Neitzel 2000), are defined by rule structures that lead to repetitive and recursive activities. Thus in each game session of the simulation *Sim City* (Maxis since 1989), a different city will emerge, but the player-actions that lead to the city will be very similar to the activities in former game sessions. In this respect, *Sim City* can be compared to football or tennis. Such games do not have an intrinsic ending but are stopped by extrinsic factors (the memory capacity of a computer or arbitrary time restrictions). However, it is not really possible to retell the “story” of these games.

The “(his)story” of a game like *Sim City* or *Civilization* (Micropose since 1991) has the structure of a chronicle (Neitzel 2000), which is not a narrative form in the strict sense of the term.

3.7 Aspects of the Fictional Game World

In games and play, the separation of levels (story and discourse) is incomplete. Bateson (1972) states that a play-action always includes meta-communication. For a player, killing a monster in a game means “I know that I am killing a monster in a game.” The player is aware of that she is playing.

However, in the computer game context this knowledge need not be based on an abstract reflection of the game’s semiotic status. Rather, the actions of a player of a computer game themselves already encompass two levels: the fictional level (e.g. “Mario rescues Princess Toadstool”) *and* the physical level (e.g. “I press the button combination of cross and triangle”) (cf. Neitzel 2004). Like performative speech acts, which cause changes outside the linguistic realm, the actions of a player on the interfaces of the computer (in combination with the technical apparatus) cause changes in the fictional game world (Neitzel 2007a). This double-level characteristic is incorporated into the technical apparatus of the computer game. While the material body of the player remains outside the game, she operates inside the game with the help of a semiotic body, her avatar, which serves as a tool for operations, as a fictional figure in the game’s diegesis, and (in multiplayer games) as a representative for the player. Through the avatar, the player functions as an actor in the game and at the same time remains a spectator: she sees herself acting through the avatar. This leads to three notable differences between computer games and narratives:

1) Metalepsis, “a grabbing gesture that reaches across levels and ignores boundaries” (Ryan 2004: 441), is the normal case in computer games. It is not an artistic deviance but the basis of the game (Pier → Metalepsis [5]).

2) As a consequence of these two positions (being inside and outside the fictional game world at the same time), computer games not only provide the player with a point of view but additionally with a point of action (cf. Neitzel 2007b; Thon 2009).

3) The fictional game actions and the physical actions (of the player and the technical apparatus that displays the game actions) take place at the same time. Thus if one identifies the act of playing with the act of narrating, the result is simultaneous narration (Neitzel 2000; Ryan 2006), a form of narration seldom found in literature (Genette [1972] 1980: 218–19).

4

Topics for Further Investigation

Though much has been done in recent years, the narrative analysis of computer games, as are game studies, is still at its beginning. So far, there are divergent approaches but no schools, nor is there a consensus on central issues. This is due not only to the novelty of computer games, but also to the diversity of scholars' disciplinary backgrounds. Few game scholars have a sound knowledge of narratology, and probably an even smaller number of narratologists are knowledgeable about computer games. Thus all the issues named above are in need of further investigation. What is required are more case studies as well as a closer look at the modes of mediation and at the relation between narrative and ludic elements in specific games. Beyond the necessity of precise analyses of games and their narratives, two broader issues are worth investigating.

On the level of cultural practices, the narratology vs. ludology debate can be pursued further. The aim here should not be to decide whether computer games are narratives or a form of play but to investigate the relation between the cultural practices of narrating and playing. Taking up Ong's ([1982] 1995: 136) statement that a "secondary orality" emerges through the multiple use of electronic technologies, it should be investigated whether (and how) the computer contributes to the displacement of narration by play or of narratives by games.

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To cite this entry, we recommend the following bibliographic format:

Neitzel, Britta: "Narrativity of Computer Games". In: Hühn, Peter et al. (eds.): *the living handbook of narratology*. Hamburg: Hamburg University. URL = http://www.lhn.uni-hamburg.de/article/narrativity-computer-games [view date:12 Feb 2019]