

Marie-Laure Ryan, the well-known scholar on narrative theory and electronic textuality, states in her recent book *Avatars of Story* (2006) that classical narratology, originally designed for the analysis of standard written text, does not work well for interactive textuality or computer games. She suggests that narratology, which she characterizes as an unfinished project, should reposition itself on a transmedial and transdisciplinary track to redefine itself as a “transmedial narratology” (2004, p. 1). The main problem of the transmedial narratology in relation to computer games is according to her the question of *how to reconcile narrativity and interactivity*.

With her plea for a project of “transmedial narratology” Ryan explicitly takes position in the debate between ludologists and narratologists, that started in 2001 with the publication of the editorial of the first issue of the online journal *Game Studies* (Aarseth 2001). Ludologists claim that games and narratives are mutually exclusive, whereas narratologists not only claim that games have narrative dimensions, but also that gameplay can only be understood in relation to the narrative dimensions. After almost a decade of debate between ludologists and narratologists all participants acknowledge that the main problems of the interaction between narrative structures and the mechanics of gameplay remain to be solved. The debate between ludologists and narratologists, heated by the political urge to demarcate the new field of game studies, obfuscates the fact that the emerging discipline of narrative analysis, in particular the structural narrative semiotics as defined by Barthes and Greimas, already dealt with these problems. A structural narrative analysis of *Tetris* will not only show that Tetris has narrative structures, but also that the strategic and communicative dimensions of computer games can be studied using narrative models and categories developed in the 60's and onwards.

1. Tetris-studies

Although ludologists and narratologists disagree about how narrative concepts should be used in game studies, they agree about the fact that some games have narrative dimensions and others not. *Chess*, *Go*, or Tetris are non-narrative games because they “do not fill the basic conditions of narrativity, namely offering an image of life by creating a concrete world populated by intelligent agents whose actions make this world evolve” (Ryan 2005). The question of the abstract games plays a very prominent role in the debate between ludologists and narratologists with Tetris as *pièce de résistance*. Ludologists refer to Tetris to explain that games not necessarily need a narrative dimension and that the performative dimension can be studied separately from the narrative dimension. Narratologists accuse the ludologists of neglecting the narrative dimensions of games and of looking only “at things that apply to *Tetris*” (Montfort 2004). They caricature ludology tauntingly as “Tetris-studies”.



Bridging the Narratology-Ludology Divide. The *Tetris* Case

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But does Tetris really lack any narrative dimension? At first we should distinguish concepts like narration and narrative from narrativity. To construct a medium-free and universal transmedial narratology, Ryan defines narrative as a cognitive construct “that transcends media, disciplines, and historical as well as cultural boundaries” (2006, pp. 1-2, 102). As a consequence thereof, anything, even life itself, can provoke stories in the mind of a cognizing subject. To differentiate these more diffuse experiences of narrative from the narratives in the proper sense of the word, she introduces two narrative modalities: “having a narrative” indicates that a semiotic object is able to invoke a narrative script and “being a narrative” means that a semiotic object is consciously produced with the aim to evoke a narrative image and is recognized as such (*ivi*, pp. 10-11). Narrative is thus on the one hand defined as a mental image constructed by the interpreter and on the other hand as a particular meaning that is encoded in a text. We should differentiate narrative as defined by Ryan from narrativity, which according to Greimas, forms the very organizing principle of all discourses, whether narrative, non-narrative, figurative or abstract (Greimas & Courtés 1982, p. 209). The fact that some games are more abstract and less figurativized and iconic than others, does not necessarily mean that they lack narrativity. The definition of narrative in terms of time, settings, characters, and events, limits the ludologist's as well as narratologist's approach to what Roland Barthes calls the referential surface level of the text (1977, p. 111).

2. A structural analysis of narrative

When Ryan states that narratology as the formal study of narrative has been dormant for forty years and has never developed into a “full-scale transmedial narrative theory” (2004, p. 1), she refers to the publication of the Special Issue on Structural Analysis of Narrative of the

French journal *Communications* in 1966 (Barthes *et aliter* 1966). Especially the essays of Barthes and Greimas paved the path for a more general semiotic approach of the narrative dimensions of discourse. In the very first paragraph of his seminal essay *Introduction to the Structural Analysis of Narrative* Barthes states that the narratives of the world are numberless and distributed amongst very different substances (languages, gestures, images) and present in many genres to which we could of course add computer games (1977, p. 79). Because an inductive analysis of this variety of narratives is doomed to fail, narrative analysis, argues Barthes, is only conceivable as a deductive project, that departs from a “hypothetical model of description” and gradually works “down from this model towards the different narrative species which at once conform to and depart from the model (*ibidem*, p. 81)”. Which means that narrative analysis can never be, as Ryan argues, “essentially a taxonomical project” (2006, p. 120).

Narrative analysis has according to Barthes to ‘decronologize’ the narrative continuum and to ‘relogize’ it (1977, p. 99).” Referential time, space and characters should in other words be distinguished from the narrativity defined as the logical organization of the underlying narrative structures. On deeper analytical levels the superficial level of the “referential illusion” is analyzed in terms of logic, paradigmatic oppositions, functions, actants and actions.

Although Ryan claims that narratology is the formal study of narrative (2004, p. 1), her transmedial narratology doesn’t seem to account for the underlying narrative deep structures. Nor does Ryan’s definition of computer games as “narratively organized systems for playing” (2006, pp. 8-9, 197; 2004, pp. 349-350) or the study of computer games as “a functional ludonarrativism that studies how the fictional world, realm of make-believe, relates to the playfield, space of agency” (2006, p. 203), really answer the question how the strategic dimension of gameplay and the imaginative experience of the fictive world are related. In her own words:

“could the same system of rules (provided we are able to determine what is a rule and what is not) be narrativized in many different ways, or is there an organic, necessary connection between rules and narrative? Do the problems presented to the player grow out of the narrative theme, or are they arbitrarily slapped upon it?” (Ryan, in Montfort 2005)

It was Barthes, who forty years earlier, formulated a possible answer to this question. He observed that the subject of many narratives is often a ‘dual’ subject, that is, a subject based on the archaic structure of two adversaries who dispute over a stake. This ‘dual’ subject relates the structure of narrative to that of (modern) games:

“two equal opponents try to gain possession of an object put into circulation by a referee; a schema which recalls the actantial matrix proposed by Greimas, and there is nothing surprising in this if one is willing to allow that a game, being a language, depends on the same symbolic structure as is to be found in language and narrative; a game too is a sentence.” (1977, p. 108)

Hence games, narratives and language all share the same symbolic structure, which Greimas calls a “simple narrative” (1982, p. 203). Does this mean that the narrativity of a simple and abstract game like Tetris can be linked to the performative dimension of its ‘gameplay’?

3. Narrative analysis of Tetris

Following Barthes’ proposal to analyze a game as an actantial matrix, we should be able to describe the manipulation of the blocks in Tetris as an interaction between actants. In Greimasian semiotics, which attends to signification in a broad sense, actants are defined as abstract syntactical units of the discourse *which undergo an act* (*ivi*, p 5). Actants are thus not individuals or material things, but formal actantial positions which define each other reciprocally. The actant-subject only exists in conjunction or disjunction with the actant-object and vice versa. The subject strives after the object which is always a value-object for a subject. The object in Tetris invests for instance the goal of the game with all its stakes. The actants, who only exist on the abstract depth level of the semio-narrative structures, are anthropomorphized as actors on the more superficial discursive level and finally textualized as a “referential world” which consists of a playfield, falling blocks and a player¹. The “simple narrative” of Tetris can be analyzed as a base Narrative Program (NP) which consists of several sub-programs (instrumental NPs) which are necessary for the realization of the NP². A NP can be described as a transformative doing (Dt) in which a beneficiary subject (S2), who initially is in disjunction (\cup) with the value object (Og = gameplay), is at the end of the game in conjunction (\cap) with the value object: Dt [S1 \rightarrow (S2 \cup Og) \rightarrow (S2 \cap Og)].

Given that the state which precedes the transformation is presupposed by the process, it is common practice to write the formula in a shorter way: Dt [S1 \rightarrow (S2 \cap Og)]. Our hypothesis is that the operator subject and the beneficiary subject of the abstract semio-narrative level correspond on the discursive level with only one actor, the player, then they are in an actorial syncretism (S2 = S1) and should the formula be rewritten as Dt [S1 \rightarrow (S1 \cap Og)] (*ivi*, p. 326). The base program of Tetris can only be realized through a whole series of embedded instrumental NPs, such as the opening of the game, the reading of the help files, the starting of the game, and the series of manipulation of the blocks. The following schema shows the complex base NP of Tetris with some of its instrumental NPs.

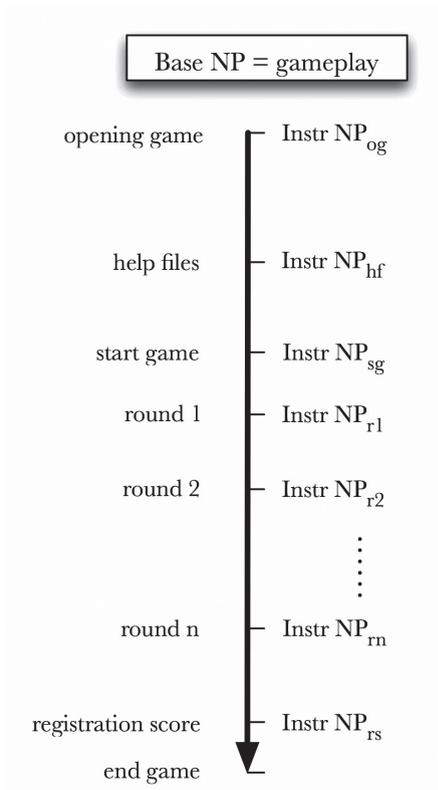


Fig. 1 – Base Narrative Program of *Tetris*

4. The canonical schema of the quest

The starting of the game installs a subject operator with the modality of a /wanting-to do/ (wanting to play Tetris) and a value object “the gameplay” which is strived after by the operator. But before the subject is able to play the game, it has to acquire the necessary competences to play the game. A first time player acquires these competences by opening the help files which installs two new actants: the Sender (Sr) and Receiver (R). The subprogram of the acquisition of the competence is different from the base NP, because the Sender manipulates and sanctions the Receiver from a level that transcends the narrative universe in which the subject operator accomplishes its narrative trajectory (Greimas 1982, pp. 206, 294). The Sender invests the Receiver thus with a new value object (Okn) namely a /knowing how to do/: Dt [Sr → (R ∩ Okn)]. Note that the Receiver on the discursive level is in an actorial syncretism with subject operator (R = S1), because both correspond to the actor player. The Sender not only endows the Receiver with the competences to play the game, but it also informs the Receiver about the rules of the game and ‘asks’ the Receiver to obey the rules. The Receiver in turn has to accept or to reject the terms the contract offered by the Sender. Hence the Sender not only determines which values are at stake in the game (the object) but also *how the Receiver has to act (according to the rules of the game)*. The Sender returns at the

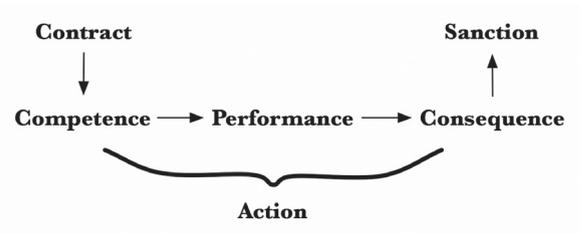


Fig. 2 – Hierarchy of narrative trajectories in the canonical schema of the quest

end of the game as a subject judicator who determines whether the operator has acted conform the terms of the contract (Greimas 1982, p. 267). The Sender judicator decides in other words about the final modality of the /being able to do/ and publishes the game score. The whole programming of the action in Tetris corresponds exactly to what Greimas (*ivi*, p. 204) following Propp (1968), defines as the canonical schema of the quest³. The schema of the quest is not just a conflict between two actants over an object, but it always implies the transfer and definition of the values which give meaning to the trajectory of the subject. The quest schema puts two couples of actants into play (Sender and Receiver, and subject and object) which each its own narrative trajectory, for the Sender and the Receiver: Contract → Action → Sanction and for the subject and object: Competence → Performance → Consequence (Fontanille 2006, pp. 73-75). Because the Sender defines the values at stake and determines the action programs of the subject and object, both trajectories are hierarchically organized in the sense that the trajectory of the Sender and Receiver controls and subsumes the trajectory of the subject and object. To sum up we can schematize the Narrative Program of Tetris as follows: With the opening of the game a subject operator is installed and modalized with a ‘wanting-to-do’, the *competence* (‘knowing-to-do’) is acquired with the acceptance of the rules and the definition of the value object, the *performance* (‘being-able-to-do’) is realized through the execution of the rules and the quest for the value object, and finally the action is *sanctioned* with the registration of the scores.

5. The dual subject in games and narratives

Because each transformation necessarily takes place in a field of forces, in which the operator has to overcome resistances, every narrative program is necessarily doubled with a counter-program. Although the players of Tetris do not play against real adversaries, the gameplay presupposes a polemical relation between two diametrically opposed NPs, each endowed with its own operator, beneficiary subject, value object, instrumental NPs et cetera. The player of Tetris plays not against an explicitly manifested anti-subject but against an in the computer game ‘objectivized’ or ‘neutralized’ counter-program. Tetris is in other words an automaton, the

Narrative Program TETRIS

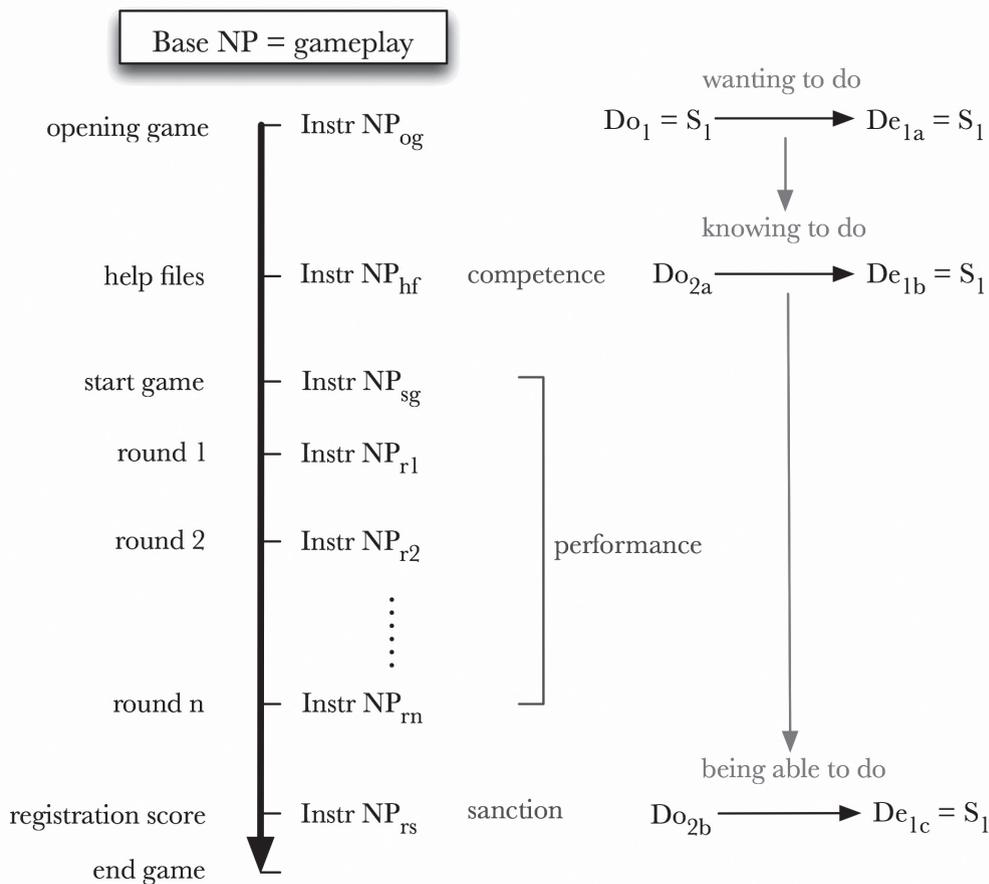


Fig. 3 – Narrative program of *Tetris*

simulacrum of a “programmatic doing” defined by Greimas as a “(neutral) operator subject in possession of a group of explicit rules and an order requiring the application of these rules or the carrying out of instructions” (1982, p. 20). The game is after all nothing else than a translation of the official Tetris guidelines into the algorithms of the computer language. Hence the player plays “against the machine” and has to develop strategies to undo or avoid the execution of the counter-programs of the automaton. This is what Barthes meant when he stated that the subject of many narratives and games is a truly “dual subject” (see also Landowski 1989, p. 242-44).

Aarseth argues that games are not accessible for narratological analysis because the player pursues a goal in the future and games therefore are always forward oriented (2004, p. 333). Playing games is an act or performance, and to account for the complex and unpredictable event structures of games, the strategic analysis of the performative dimension should carefully be distinguished from the reflective retrospective analysis

of the narrative dimension (*ivi*, p 369). Aarseth makes an exception for non-narrative games like Tetris and *Quake*:

“In *Tetris* there is no final solution, just harder and harder situations, until the player makes one mistake too many. And in a *Quake* death match, like in chess, there are no specific ways to progress; you win by killing your opponents any which way you can and more times than they.” (*ivi*, p 369)

Both narratologists and ludologists consider valid the assertion that narratives are backwards oriented and games forwards oriented: an important argument to distinguish games from narratives. Both characterize Tetris as an abstract, non-narrative game, because it lacks the retrospective dimension of the narrative. Ryan states that some games can be considered narratives because we are able to attribute meaning to them retrospectively in the retelling of the game (2004, pp. 333-334). But as Jacques Fontanille argues, the meaning of any action, narrative or non-narrative, is only apprehensible *a posteriori*, thus when the process is closed. Narrative schemas

are thus always based on a retrospective reading of the course of action:

“starting from the end – the *sanction* – recognition, compensation, or punishment – one is invited to discover which fact carries the sanction, that is, to identify the *consequence* of the action. Starting from the consequence, one may reconstitute what led to it, beginning with the *performance* itself. Then, starting from the performance, one may calculate the conditions that had to be established first and for all, the *competences* that it was necessary to acquire, etc. The intentionality of the action can thus only be retrospective. (2006, p. 133)

The term Narrative Program already suggests that a narrative trajectory is always programmed, that is, calculated from the point of view of the expected outcome. A prospective programming of the action differs from a retrospective programming in that the relations between the elements in the concatenation are not necessary but possible and contingent (see also Bremond 1980). This does not necessarily mean that the actant has no control over the action. The actant may, according to Fontanille, program the action in three ways (2006, p. 134). The actant may calculate the trajectory backwards, starting from the desired end situation or make use of stereotyped schemas. These two forms of retrospective logic, which are characteristic for Tetris, are still closely related to the logic of the action and can therefore be called tactics. Landowski defines tactics as the “science of the actualizing maneuvers” in which “the interactional effect comes from the fact that S1 masters the ‘objective’ circumstances of the doing of S2” (1989, p. 239). Tactics only concern an operator and the application of a set of rules and should therefore be located on the local level of the actualization of instrumental NPs. The third way of taking control of the action is by using strategies. When confronted with unexpected situations in which no backwards reasoning or accumulated knowledge suffice, such as in complex games as *World of Warcraft* in which the player plays against the Artificial Intelligence of the program as well as against other players, the operator has to develop a strategy. Strategies are based on improvisation and try to respond to the unpredictable circumstances of the event structures of the play. A strategy differs from tactics because it concerns next to the operator one or more subjects which can be considered as real anti-subjects who have a relative mastery over their own programmatic doing (*ivi*, p. 239). Strategies operate on a global level and not on the local level of the instrumental NPs, because the operator manipulates the anti-subject’s competence for making decisions. Although the strategy induces to what Fontanille calls “an open trajectory envisioned prospectively” (2006, p. 135), the mode of reasoning remains nevertheless retrospective. The invention of counter-strategies relies namely always on the construction of virtual NPs of which the intentionality is oriented retrospectively. Consequently

strategies as well as tactics enlarge the number of narrative programs which also means that the (narrative) identity of the subjects and anti-subjects not only is acquired in relation to the value-object but also in a continuous polemical interaction with projected counter-programs. We should therefore conclude that Aarseth’s strategic analysis is still governed by a retrospective narrative logic and should be based on narrative models and categories.

The discussion of the narrativity of computer games, and Tetris in particular, can be extended beyond an analysis of the actants of the narration alone. As Barthes in 1966 stated, a narrative is a narration and an object of communication between a ‘donor’ and a ‘receiver’ at the same time (1977, p. 109). Donor and receiver, the actants of the communicative situation, are like the actants of the narration never real ‘living’ persons (*ivi*, p. 111) but “paper beings”, immanent to the narrative and only accessible to a semiotic analysis. Hence the communicative act of playing games is itself “a minimal story”, an action which can be analyzed as a NP. The performative dimension therefore has its own communicative doing (enunciation), actants (enunciator and enunciatee), objects (utterance), strategic dimensions and instrumental NPs which control the narration. A detailed analysis of the communicative act of playing Tetris (with the analysis of its interactivity and the soft- and hardware interfaces) lies beyond the scope of this article, but would indicate that not only the game itself but also the playing of the game (“its performative dimension” according to Aarseth⁴) can be analyzed by using narrative models.

6. Conclusion

Talking about narrativity in relation to games should thus go beyond the common sense definition of a narrative (even defined as a cognitive construct) with characters that figures in place and time. Defining narrative in these terms leads to rather crude formulations as that the narrative element of the computer games is subordinated to the playing action and therefore nothing more than an accessory “affective hook” or “narrative garb” that lures the players into the game (Ryan 2004, pp. 10, 349; 2006, p. 197), that “stories are just uninteresting ornaments or gift-wrapping to games” (Eskelinen 2001) or that studying the narrative of Tetris is “just a waste of time and energy” (Aarseth 2004, p. 365). Narrativity is on the contrary, not ‘ornamental’ or ‘accessory’, but the very organizing principle of all discourse (Greimas & Courtés 1982, p. 209). The very fact that the narrative deep structures are constitutive of semiotic processes, opens up the signification systems of computer games to semiotic analysis: for a narrative semiotics of the classical structuralist kind, but also for the recent semiotics of discourse (Fontanille 2006). This would lead us out of the unfruitful dichotomy of ludology versus narratology.

Evaluating the interplay between narrative and gameplay thus starts with the analysis of the narrative (semiotic) deep structures that govern the more superficial discursive structures of figurative and referential nature. An abstract and non-narrative game like Tetris has narrative structures, not because it has settings, events and characters, but because of its complex NP and tactic dimensions, and because the interactivity of its gameplay can be analyzed in narrative terms. To bridge the divide between ludology and narratology, that is, to reconcile narrativity and interactivity, we need paradoxically where Barthes in 1966 called for, a “structural analysis of narrative”.

Notes

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¹ The Greimasian approach uses a generative semiotic model of the constitution of meaning which moves up from the most simplest and abstract fundamental elementary structures toward the most complex and concrete surface manifestations (Greimas 1982, p. 132-134).

² In Greimasian semiotics a Narrative Program is the most elementary syntagm used to represent an action. A NP can be simple or complex. A complex NP requires the preliminary realization of one or more other NPs. The general NP is called a base NP and the NPs presupposed and necessary for its realization instrumental NPs (Greimas 1982, p. 245-246).

³ See for a recent discussion of the model of the Quest in relation to computer games Aarseth 2004; Montfort 2004; Løvlie 2005.

⁴ Aarseth (2004, p. 369) contrasts, following Tronstad (2001), quests as performatives which belong to the order of the act, with stories as constatives which belong to the order of meaning.

Bibliography

- Aarseth, E.J., 2001, “Editorial: Computer Game Studies, Year One”, in *Game Studies*, n. 1, vol. 1, available: <http://www.gamestudies.org/0101/editorial.html>.
- Aarseth, E.J., 2004, “Quest games as Post-Narrative Discourse”, in M.-L. Ryan, ed., pp. 361-376.
- Barthes, R., 1966, “Introduction à l’analyse structurale des récits”, in *Communications*, n. 8, pp 1-27; En. tr. “Introduction to the Structural Analysis of Narratives”, in *Image, Music, Text*, London, Fontana, 1977, pp. 79-124.
- Barthes, R. et. alter, 1966, “L’analyse structural du récit”, *Communications*, n. 8.
- Bremond, C., 1966, “La Logique des Possibles Narratifs”, in *Communications*, n. 8, pp. 60-76; En. tr. “The Logic of Narrative Possibilities”, in *New Literary History*, n. 11, pp. 387-411.
- Eskelinen, M., 2001, “The Gaming Situation”, in *Game Studies*, n. 1, vol. 1, available: <http://www.gamestudies.org/0101/eskelinen/>.
- Fontanille, J., 1998, *Sémiotique du discours*, Limoges, Pulim; En. tr. *The Semiotics of Discourse*, New York, P. Lang, 2006.

- Greimas, A.J. & Courtès, J., 1979, *Dictionnaire raisonné de la théorie du langage*, Paris, Hachette; En. tr. *Semiotics and Language. An Analytical Dictionary*, Bloomington, Indiana University Press, 1982.
- Landowski, E., 1989, *La Société réfléchie. Essais de socio-sémiotique*, Paris, Editions du Seuil.
- Løvlie, A.S., 2005, “End of story? Quest, narrative and enactment in computer games”, *Digital Games Research Conference 2005, Changing Views: Worlds in Play*, Vancouver, available: <http://www.digra.org/dl/db/06276.38324.pdf>.
- Montfort, N., 2004, “Computer Games at SSNL’s Narrative Conference (Against ‘Tetris Studies’)”, in *GrandTextAuto*, available: <http://grandtextauto.org/2004/04/25/computer-games-at-ssnls-narrative-conference/>.
- Montfort, N., 2005, “Aarseth’s Anti-Quest. GrandTextAuto”, in *GrandTextAuto*, available: <http://grandtextauto.org/2005/01/10/aarseth-anti-quest/>.
- Propp, W., 1968 [1928], *Morfologija skazki*, Leningrad, Nauka; En. tr. *Morphology of the Folktale*, Austin, University of Texas Press, 1968.
- Ryan, M.-L., ed., 2004, *Narrative Across Media. The Languages of Storytelling*, Lincoln, University of Nebraska Press.
- Ryan, M.-L., 2005, “Narrative and the Split Condition of Digital Textuality”, in *dichtung-digital*, n. 1, available: www.dichtung-digital.com/2005/1/Ryan.
- Ryan, M.-L., 2006, *Avatars of Story*, Minneapolis, University of Minnesota Press.
- Tronstad, R., 2001, “Semiotic and Non-Semiotic MUD Performance”, *COSIGN conference*, Amsterdam, available: http://www.cosignconference.org/downloads/papers/tronstad_cosign_2001.pdf.

Computer games

- Tetris*, by Pazhitnov, A., 1985, Various.
- World of Warcraft*, by Blizzard Entertainment, 2004, Vivendi Universal.
- Quake*, by id Software, 1996, Various.