Article 5

An Ontological Theory of Narrative Works: Storygame as Postclassical Literature (2015)

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Abstract

This article presents an ontological theory of the *narrative work* in order to identify the *storygame* (videogame with high narrativity) as a postclassical narrative phenomenon. The theory is demand-based, meaning that it perceives narrative works through the demands they set for their progression, *progression demands*. In the postulated ontological theory the article identifies the storygame primarily as an *extrademanding narrative work*: a narrative work whose progression entails input that is either *strategic* (constrained by indeterminacy) or *time-critical* (constrained by time limits). Observing that not all artifacts currently considered 'storygames' set strategic or time-critical progression demands leads to the suggestion that some narrative works labeled as such might be better studied, in a very classical sense, as narrative literature.

INTRODUCTION

For the delight of those increasing amounts of busy people who aim to maximize the efficiency of their daily activities, the market man invented iPod: an apparatus that enables filling all moments of unproductive tranquility with a continuous flow of cultured information. After years of resistance I too succumbed one spring when I found *The A.B.C. Murders* (Agatha Christie 1936) audiobook. From then on, a mystery about a murderer leaving ABC railroad guides at crime scenes progressed every time I went on my weekly jog. Keeping up with the unraveling enigma turned out as a challenge, however. As my attention roamed around everyday sights and sounds, many of the aurally narrated details seemed to bypass my cognition. Eventually, I could not make out any of Hercule Poirot's deductions due to my lack of recollecting Lady Clarke, Sir Carmichael, and many other key characters: the voice narrated, but my mystery did not progress. While on the empirical level the work moved on flawlessly, on my conceptual level it had stopped.

Narrative works[1] such as *The A.B.C. Murders* are often distinguished from *storygames*, generally understood as videogames with high narrativity, by the compulsoriness of the latter's demands: storygames cannot be progressed without prominent efforts. This disparity can be traced back to the origins of storygame research (Niesz & Holland 1984; Buckles 1985; Randall 1988) but is commonly credited to Espen Aarseth's cybertext theory. In Aarseth's model the core difference between the two lies in the storygame's 'ergodic' nature. A closer analysis of the concept of 'ergodic' is given in the third section, yet at this point it suffices to observe how for Aarseth the challenges ('aporias') of texts are overcome by solutions ('epiphanies') that can be 'ergodic' or 'nonergodic' depending on the compulsiveness of manipulative success:

> Compared to the epiphanies of [nonergodic] texts, the ergodic epiphanies are not optional, something to enhance the aesthetic experience, but essential to the exploration of the event space. Without them, the rest of the work cannot be realized. (Aarseth 1999, 36)

At the same time as the notion of the storygame as an exclusively demanding narrative work has become something of a datum[2] in the academic field, investigations into the narrational peculiarities of the videogame have tended to focus on its multicursal event structures. As tropes like 'emergent narrative' (Galyean 1995), 'interactive film' (Bolter & Grusin 1999), and 'interactive narrative' (Mateas & Stern 2007) continue to dominate storygame research, they mostly fail to explain what makes these ludonarratives *ludo*narratives next to the astronomical spectrum of other 'interactive' or 'ergodic' narrative phenomena. Multicursal event structures have never been exclusive to the storygame.

This article seeks to identify the storygame as a narrative phenomenon by proposing a demand-

[1] For those in need of definitions from the start, *narrative works* shall be discussed here as works ('work' will be opened up later) with high narrativity, where 'narrativity' indicates the extent of an artifact's capacity to invoke conceptual story construction. A more (onto)logically exact word might have been *storywork*, the use of which here would, nonetheless, have hindered participating in previous scholarly discussion to an insurmountable degree. This terminological story-narrative battle is not yet lost with the *storygame* (cf. Ryan 2009; Ensslin 2012).

[2] See for instance Sloane (2000), Montfort (2004), Wardrip-Fruin (2005), Ryan (2006a), and Bogost (2007) (cf. Eskelinen 2012).

based ontological theory that recognizes narrative works through the demands they set (or 'entail' in less anthropomorphic language) for their progression. Recalling Tzvetan Todorov's (1973) mature advice concerning the theoretical research of 'literature;' rather than playing with the notion of 'narrative' the idea here is to produce an ontological base for theorizing more and less narrational 'work' types:

> instead of the simple notion of literature we now have a number of different types of discourse, each equally deserving of attention. If the choice of our object of study is not dictated by purely ideological reasons (which would then have to be spelled out), we no longer have the right to limit ourselves to purely literary subspecies (11)

The point of departure is that no narrative phenomenon (including the 'interactive' or 'ergodic' one) is capable of setting *compulsory progression demands* that block access to the rest of the work. The point of procedure is that all narrative works set *optional progression demands* the fulfilling of which is required to access some parts of the work. While all narrative works are thus inherently *demanding*, the recently proliferated computational ones, the storygame par excellence, do seem to have the potential to be more so (in a quantitative sense). These *extrademanding narrative works* are the prime subject of the proceeding analysis, which will eventually reveal two 'postclassical' demand types that 'materially classical' narrative works almost never provide: *strategic input* and *time-critical input*.

The first section introduces the demand-based ontological theory of the narrative work. The second section introduces the concept of progression demands. The third section provides a typology of progression demands and identifies the storygame. Based on the demand typology, the fourth and last section concludes with the suggestion that some narrative works currently labeled 'storygames' might be better studied, in a very classical sense, as narrative literature instead.

NARRATIVE WORK

Until the emergence of modern literary theory, ontological scrutiny of narrative works was heavily biased on metaphysics. No later than some eight decades ago (first German publications in the 1930s) Roman Ingarden, the leading theorist, had taken the Husserlian distinction between empirical and conceptual existence as the foundation for his explorations in the ontology of what he called the 'literary work of art:'

> a book is not a literary work of art; it is only a material tool (means) for giving a stable, relatively unchangeable real foundation to a literary work of art and in this way providing the reader with access to it. (1973b, 176)

For Ingarden literary works (and narrative literary works in particular) are not empirical objects but conceptual formations in which "various elements preserve in a characteristic potentiality" (1973a, 372). While a literary work may thus have multiple materializations, i.e. different copies of a novel, such empirical artifacts are only access points to the essentially conceptual object. A proper reading of a novel corresponds to a conceptual construct which reflects the 'full incarnation' of the literary work; existing not empirically but in a timeless conceptual realm. Words resting on pages, storygames installed in computers, and films embedded in reels accommodate an ontic sphere that differs from the conceptual one in which the genuine work exists (cf. Iseminger 1973; Olsen 1976; Barthes 1977; Mitias 1982; Shusterman 1987; Bakhtin 1993).

As the endless philosophical debates between rationalists and empiricists confirm, the distinction is fundamentally problematic. In order to be able to define ontological borders for a *work*, one must have some perception of it. Hence, the existence of any work —be it literary, narrative, or both—extends inevitably to the realm of its empirical manifestation. This fact has special importance in theorizing computational narrative works. The seminal argument was made by Espen Aarseth (1997) who chose to abandon the conceptual 'work' in order to establish his textual ontology on the material object:

> while they focused on what was read, I focused on what was read *from* (3) ... the object must be thought of as independent of any particular experience if it is to be thought of at all. We need not think of this object as identical to the 'work' but as a material entity that determines it in a way the individual readings (or all of them put together) do not. (45–46)

Referencing Ingarden's thinking Aarseth agrees that the conceptual must be disconnected from the empirical, but offers a conclusion that is exactly the opposite: if one is to think of a text as a distinct object, it is not the conceptual but the empirical one.

In the present article *narrative work* will not be understood as an empirical or conceptual object, but as a binary domain that has existence on both levels. This narrational synthesis can be expressed by those classical structuralist story-discourse dichotomies that associate the former to ideal constructs and the latter to materialized constructs. Here the expressions in question do not, however, have much to do with their original structuralist functions. Let those original functions be revisited as they are neatly explained in Aarseth's (2012) recent use:

> A kernel is what makes us recognize the *story*; take away the kernel and the *story* is no longer the same. If the wolf does not eat Red and her granny, the *story* cannot be recognized as *Little Red Riding Hood*, so the eating is a kernel. D'Artagnan must befriend the three musketeers, or the *story* is not the one we find in Dumas' novel. Satellites are what can be replaced or removed while still keeping the *story* recognizable, but which defines the *discourse*; replace the satellites and the *discourse* is changed. (131, emphases added)

The study at hand shall take a very different road by following Barbara Smith (1980) who argues, more than convincingly (with the help of 345 versions of *Cinderella*), for the theoretical faintness of 'stories' as well as (narrative) 'discourses' in their conventional structuralist sense:

> what narratologists refer to as the basic stories or deep-plot structures of narratives are often not abstract, disembodied, or subsumed entities but quite manifest, material, and particular retellings—and thus versions—of those narratives, constructed, as *all* versions are, by someone in particular (218) ... For any particular narrative there is no single *basically* basic story subsisting beneath it but, rather, an unlimited number of other narratives that can be *constructed in response* to it or *perceived as related* to it. ... there are always *multiple* basic stories that can be constructed in response to it because basic-ness is always arrived at by the exercise of some set of operations (221) ... It is also important to recognize that narrative discourse is not necessarily—or even usually—marked off or segregated from other discourse ... these definitions and distinctions are drawn, not discovered, by narratologists. (232)

Smith's remarks (not Smith herself, to be clear) call for a restructured ontological theory of the narrative work that accounts for the fact that the planes of its narratological significance, if they are to be studied as such, are not Platonic ur-structures—which are indeed still tempting in their neatness—but domains that contain multiple structures (note that a multi-structural theory is not an anti-structural theory). While the postulated approach maintains the narrative work as a synthesis of the two ontological domains (empirical structures and conceptual structures), their function is only to indicate the twofoldness of the essence that gives the work narratological significance. To salvage one of Ingarden's terms without retaining its idealistic associations, the narrative work is ontologically *heteronomous* (contra *autonomous*) in the sense that it consists of both empirical and conceptual potential attributed to it by the multiple possibilities of contact and consciousness.[3]

What henceforth relates to the conventional 'story' comes close to the 'literary work' of Ingarden: the conceptual multiplicity of several possible story constructs consisting of events, entities, and their indexical relations. Unlike Ingarden the present approach does not, however, connect that multiplicity to any Platonic ur-work that is embodied in numerous codex copies or other empirically perceivable artifacts; here every empirical artifact has its own unique conceptual multiplicity. This multiplicity is to be understood as an open *story domain* with a vast number of possible story constructs; not to be confused with

[3] While the need for a restructured ontological theory of the narrative work has become apparent mainly due to the explosion of computational and other materially unorthodox artifacts with narratological significance, critics like Richardson (2006) have finally started to question the idealist structuralizations of the narrative codex too; yet with an unfortunate focus merely on its 'unnatural' forms in which "the usual separation between story and discourse collapses, and we are left with discourse without a retrievable story" (94). For a respectable (but not presently applicable) attempt to renovate 'story' and 'discourse,' see Gunder (2003). For a sophisticated critique on multiple fixed narratological concepts, see Walsh (2011).

the work's total reflective potential that Marie-Laure Ryan (1991) calls the work's 'semantic domain' (127) and Gérard Genette (1997) the work's 'transcendental mode of existence' (7–11). A copy of *War and Peace* (Leo Tolstoy 1869) has no ultimate 'story' (or 'model-world' as in Herman 2013, 104) but provides tools for numerous story constructs, *suprastories*[4], of which the reader assembles one. This applies equally to Hollywood films, storygames, and other narrative works. By cognition the reader draws an exclusive construct of events, entities, and their indexical relations that becomes one of the numerous story constructs obtainable in the narrative work's bottomless story domain; an infinite but delimited reservoir of suprastories. To avoid misunderstandings, this article recognizes no 'stories' but only story domains that allow multiple suprastories.

What henceforth relates to the conventional 'discourse' comes close to the 'material entity' of Aarseth: the empirically existing artifact that one perceives and manipulates, the matter of the matter. Unlike Aarseth, the present approach does not, however, recognize impermanent phenomena like dramatic plays and multi-user electronic literature as narrative works or texts; here the artifactual phenomenon that determines and delimits the narrative work's story domain is unique[5] and permanent. This artifactual phenomenon is to be understood symmetrically as a *discourse domain* that enables multiple *supradiscourses*. The distinction applies not only to hypertexts, storygames, and the like that allow their audiences to 'choose their own paths' (cf. Eco 1989; Landow 1992; Grodal 2003; Calleja 2009; Wei et al. 2010; Schröter & Thon 2014) but concerns all narrative works. This becomes most evident in Ingarden's (1989) ontology of paintings: what the viewer perceives is never the actual 'painting' but merely a 'picture' created by ocular selection.

> The apprehension of the picture does not at all have as its basis the full perception of the painting; rather, its basis is only the experiencing of a portion of the visual sense data (203)

Likewise, even basic codices are acted upon not only by noematic but also extranoematic means. These extranoematic choices that Ryan (2001a) lifts to a 'second degree' (39) are not the priority of 'simulation technologies' (ibid.), even though computers certainly provide new options for displaying them. The empirical discourse domains of most narrative works are prone to their audiences' motoric perception: rereading, skipping, visual accommodation, et cetera. In other words, all supradiscourses vary per perceiver, as do suprastories. This allows distinguishing four fundamental units that define the narrative work.[6]

Discourse domain. An indefinite but finite multiplicity of empirical discourse interaction sequences. Two different copies of *War and Peace* are two different discourse domains because they are two different artifacts of empirical existence, notwithstanding that they are often (at least assumed to be) much alike. Reels, disks, and files are discourse domains as much as the codex, albeit accessing them necessitates different technical equipment (occasionally even standard reading necessitates technical equipment such as spectacles).

Supradiscourse. An actualized empirical discourse interaction sequence. As one progresses the discourse domain (reads words, perceives images, traverses

4 Utilizing the Latin prefix *supra*, 'above,' to represent the multiplicity of possible story constructs is to emphasize that there are no underlying 'ideal' story constructs, but every story construct is an uplift from the pool of story constructs, the story domain.

5 Restricting the discourse domain of a narrative work to unique permanent phenomena is a deliberate choice. Unlike Genette's (1997) criticism against such "radical empiricism" (156) asserts, the chosen approach does not necessitate typological negation as the coming deliberations on storygames confirm. Claiming that some narratologically significant artifacts are less unique than others is, to paraphrase Berleant (1970), of greater importance in an economics of narratology that in a philosophy of narratology. For another criticism worthy of respect, see Howell (2002).

6-1 Frasca (2001), a notable game and videogame theorist, paraphrases Ingarden's previously cited comment on paintings: "While the book itself will remain the same as a physical object, two readers will have a different exposure to the text if one of them systematically skips certain chunks. This is different to say that the two readers will interpret the text in a different way" (40). He repeats also an important remark: videogames and simulations "are not essentially different from other representational objects [albeit they usually] are far more complex than a painting" (42). In addition, see Thon (2009).

6-2 The subjectivity factor problematizes Aarseth's typology, which considers texts like choose-your-own-adventure books as ergodic exceptions in the history of literature. Because ergodic situations in codex literature need to be interpreted as such (in electronic literature they are immanent), Aarseth ought to treat the text as an object that has its ontological foundation in ideal perception and interpretation. A textual ontology like that would near Ingarden's conceptualism, which Aarseth disclaims (see also Mukherjee 2008).

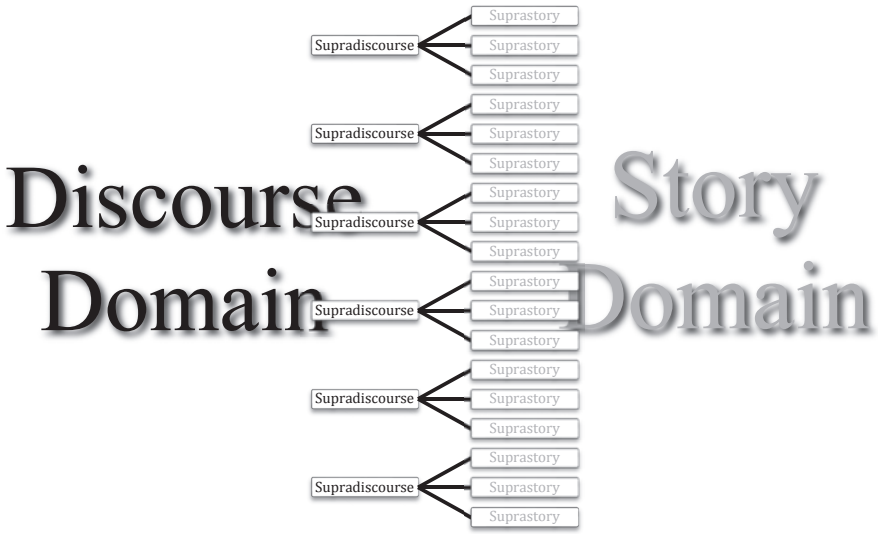

Figure 1. A model of the narrative work.

virtual environments, etc.) she or he actualizes an empirically experienced supradiscourse. Not to be confused with Teun van Dijk & Walter Kintsch's (1983) eminent 'textbase,' that is, "the semantic representation of the input discourse in episodic memory" (11). Supradiscourse is not a conceptual but an empirical instance. Since rereading a single word already alters the occurring supradiscourse, it is a reality that two different readers or readings of the same copy of *War and Peace* actualize two different supradiscourses; which are both, nevertheless, part of the same discourse domain of the same narrative work. In computational narrative works such as hypertext novels and storygames the differences between supradiscourses tend to be more radical, as the design of those works normally serves enriched multicursal empirical progression.

Story domain. An indefinite but finite multiplicity of conceptual story constructs. As for a copy of *War and Peace*, this is the immense multiplicity of story constructs that can be assembled from its written words and other empirically perceivable features. The way in which the discourse domain delimits the story domain is not totally unlike that in which, as described by Wolfgang Iser (1974), a written text imposes limits on its "unwritten implications in order to prevent these from becoming too blurred" (276). Ultimately, however, Iser's view becomes too narrow for the present ontology, which recognizes no ideal constructs. There are no 'unwritten implications' but only written ones (if they are to be considered 'implications' at all). One could propose that there exists an immeasurable *super story domain*, and different empirical artifacts (discourse domains) guide individuals to uplift their story constructs from its respective (story domain) regions.

Suprastory. An actualized conceptual story construct. As for a copy of *War and Peace*, this is *a* reader's mental chunk of events, entities, and their indexical relations including the Napoleonic wars, Countess Natasha, and the city of Moscow, for example. Mary Ann Buckles (1985) coined 'suprastory' originally as "the reader's story in their minds explaining [a text's] events" (175–6). The resemblance between Buckles' suprastories and David Herman's (2009) more recent 'storyworlds' is not minor: "a *global* mental model of the situations and events being recounted" (197, emphasis added; cf. 2002; 2005; 2013).[7]

[7] Buckles' study is the first book-length academic attempt to understand the storygame from the perspectives of narrative and literary theory. It is important to note that her prime intention was to designate suprastories as augmentations of the conventional structuralist 'story' buried in the text. Since such idealizations have no place here, in this article 'suprastory' signifies the individual's all-inclusive conceptual story construct that is closer to Herman's storyworlds and, among others, Ryan's (2006b) 'stories,' which she defines as "mental constructs that we form as a response to certain texts, artworks, discourse acts and, more generally, as a response to life itself" (647). It is not always clear whether narratologists consider their 'mental models' and 'mental constructs' unique to the interpreter, or 'global' in the sense that those models and constructs are shared by all interpreters of the same object.

Narrative works are, in sum, heteronomous syntheses of two fundamentally interdependent domains: the empirical discourse domain and the conceptual story domain (Fig. 1). The interdependence of the domains derives from the condition that every narrative work is rooted in empirical artifactuality, that is, the work's discourse domain. For this empirical artifactuality to be narratologically significant it must, in addition, be apprehended as one with a conceptual story domain. The novel *War and Pace*, the storygame *Half-Life* (Valve 1998), and Leonardo's *Mona Lisa* painting exist as narrative works to those, and only to those, who conceive of them with a story domain.[8]

PROGRESSION DEMANDS

To assemble a story construct out of a narrative work, the narrative work must be progressed. Because narrative works (in this study at least) lack those absolute 'stories' that have often been taken to represent authorial intentions, there is little sense in talking about the author (or the work) as a progressor who generates "the movement of a tale" (Phelan 1989, 15). Consequently, progression is discussed here solely as something that is done by the intelligent being who engages with the work at hand.

Narrative works set demands for their progression. These demands are termed *progression demands*. As the distinction between 'ergodically' and 'nonergodically' demanding works has become arguably the dominant theoretical model for analyzing postclassical narrative progression, it is relevant to continue with the succors and difficulties of Aarseth's (1997) influential study. For starters, his concepts of 'trivial effort' and 'nontrivial effort' that divide narrative (and other) works into the 'ergodic' and 'nonergodic' need to be reexamined. The two oft-cited definitions go as follows:

> In ergodic literature, nontrivial effort is required to allow the reader to traverse the text. If ergodic literature is to make sense as a concept, there must also be nonergodic literature, where the effort to traverse the text is trivial, with no extranoematic responsibilities placed on the reader except (for example) eye movement and the periodic or arbitrary turning of pages. (1–2)

> [an ergodic action] implies a situation in which a chain of events (a path, a sequence of actions, etc.) has been produced by the nontrivial efforts of one or more individuals or mechanisms (94)

The outwardly lucid difference between 'ergodic' and 'nonergodic' works blurs on closer examination. This is because 'triviality' and 'nontriviality' are not clearly explained.

At first glance 'triviality' seems to depend on the consequences of the performed action. A move from one page to another in an ergodic situation (e.g. a forking in a choose-your-own-adventure novel) is 'nontrivial' because the situation offers options that trigger different chains of events. In classical novels that offer no or very few ergodic situations, on the contrary, a move from one page to another is usually 'trivial' because no alternative chains of events are available. Accordingly, what makes page turning or any other empirically progressive action 'trivial' or 'nontrivial' is not whether the task is difficult or not, but whether its outcome is fixed or not. Alas, to complicate matters, Aarseth gives a third definition:

> The ergodic work of art is one that in a material sense includes the rules for its own use, a work that has certain requirements built in that automatically distinguishes between successful and unsuccessful users. (179)

In this definition 'triviality' appears to gain new meaning. As the ergodic work is defined according to its capacity to distinguish between success and failure, 'triviality' is associated with difficulty. Nontrivial progression may come into a halt. Yet that conception is in conflict with the previous one by making choose-your-own-adventure novels potentially nonergodic: if all of their alternatives are equally successful, as for instance in Ryan North's recent *To Be or Not to Be* (2013), they do not distinguish between success and failure. What appears to be the

8-1 *Mona Lisa* appears here to underline that the amount of narrativity has no real significance for the functioning of the postulated theory. Insofar as one is able to 'narrativize' (Fludernik 1996) the work, it can be considered a narrative work (for the individual in question).

8-2 Many of the classical structuralist organizers of 'story' and 'discourse' (order, frequency, kernels, etc.) become useless here. To make use of Chatman's (1978; cf. Prince 1987) terms, the discourse domain is 'substance' without 'form;' it is not a 'narrative discourse' but a discourse with story (and other) potential. This draws near to the way in which 'discourse' is and has long been understood in extra-narratological scholarship.

common dominator of Aarseth's all three definitions is some sort of 'uncertain outcome;' however, if that were the operational ergodic principle the work could no longer be discussed as "independent of any particular experience" (46) because performative uncertainty is a subjective question (see Footnote 6-2).[9]

The valuable contribution of Aarseth's model to this discussion is the revelation of two functionally discrete notions of 'triviality.' The latter, triviality as a measure of difficulty, will be the one used here. It is notable how game and videogame theorist Aki Järvinen (2007) has previously applied the term in his analysis of ability functions in play performance: the function of an ability is nontrivial if it makes the success of performance uncertain (161). Rephrasing Järvinen for current purposes: progression demands are nontrivial if they make progressing the work uncertain (cf. Malone 1980; Carroll 1993; Iversen 2010).

Due to physical, cultural, and other individual differences the distinction between trivial and nontrivial demands is subjective. For a person with low visual acuity the routine activity of perceiving moving pictures may be nontrivial, just as the activity of browsing an eBook might be for a senior citizen not familiar with computers. The lack of universal criteria does not drain 'triviality' of meaning but links it to the performing subject. A trivial demand for you may be nontrivial for me; regardless, triviality and nontriviality remain operational concepts. Because the narrative work is not solely embedded in empiricism but also has a conceptual domain, subjective (non)triviality will serve its function without damaging any of the invoked ontological principles.

Now that the obligatory concepts have been dealt with, it is possible to move on to more elaborated analyses of *narrative progression*. Since the concept is still rather ambiguous, a hands-on definition is in order: narrative progression takes place as one advances her or his supradiscourse (in the discourse domain) or suprastory (in the story domain). Progressing a narrative work is thus a twofold traversal activity in the respective domains of discourse and story. Traversing discourse is an empirical activity (acting upon information) and traversing story is a conceptual activity (internalizing information). Consequently, the act of progressing narrative works is neither solely an empirical activity of perceiving and operating physical objects nor solely a conceptual activity of cognitive story construction but an activity that takes place in two ontologically distinct domains.

Behind these instances lies the imminent danger of preserving the general notion of narrative works as Platonic ideals that must advance, empirically or conceptually, through some predetermined cardinal functions in the tradition of 'nuclei' (Barthes 1975) and 'kernels' (Chatman 1978). Hence, again, the present ontology does not acknowledge the existence of such cardinal functions: because the narrative work is a multiplicity of possibilities on empirical and conceptual levels, both, any of its particles may become a 'kernel' when it comes to a particular supradiscourse or suprastory.

> † As for discourse progression, the consequences of the domain-based ontology are substantial. Rereading pages in a book like *War and Peace*, navigating previous links in a hypertext novel like *Patchwork Girl* (Shelley Jackson 1995), or revisiting virtual locations in a storygame like *Skyrim* (Bethesda 2011) all expand the emerging supradiscourse even though the information those actions act upon may have been processed earlier.
>
> ‡ As for story progression, the consequences of the domain-based ontology are even more substantial. Since individuals may expand their suprastories with all of their imaginative capacity, the story domain is progressed every time an individual modifies her or his suprastory (story construct).

The above results in a dilemma. If every supradiscourse and suprastory is valid, the term 'progress' seems to become a void; all movement becomes 'progress.' Furthermore, in such case one should neither be able to distinguish any 'demands' the miscarrying of which would result in failed or

[9] Eskelinen and Tronstad have made considerable use of Aarseth's theory over the years. In a co-authored chapter (2003) they offer a basic terminological walkthrough, including the concept of 'triviality.' The presented difficulties of the term's double meaning complicate their contribution too: "In addition to the usual activity of constructing meanings, we must do *nontrivial* work to produce sequences of signs that are not necessarily shared by any other user" (198, emphasis added). Later, the "work required may be *trivial* or *nontrivial*, depending on whether or not there are obstacles included" (203–204, emphasis added). Perhaps dividing the ergodic condition into the two unfolded ergodic situations would ameliorate the ergodic theory.

incorrect supradiscourses or suprastories. In order to solve the dilemma, it is useful to summon the established notion of 'gaps' that is still repeatedly used to explain the general work-reader relationship.

In unity with the predominant idea that narrative works are built on some predetermined cardinal functions, it is not uncommon to theorize discourse domains as fixed skeletons that are fleshed out by their readers' reconstructive cognition. What Ingarden (1973b) calls 'places of indeterminacy' (372), those places in the discourse domain that allow reconstructive multiplicity, have today been superseded by Iser's (1978) 'gaps' and 'blanks:'

> there must be a place within [the text] for the person who is to perform the *reconstituting*. This place is marked by the gaps in the text—it consists in the blanks which the reader is to fill in. (169, emphasis added)

Whereas Ingarden's (1973b) reconstruction aims at those interpretations that come 'closest' (387) to the work's ideal conceptualization, Iser allows his gaps and blanks to be filled freely with imagination. As Iser so manages to escape Ingarden's conceptual idealism, he yet maintains the work as something that is 'reconstituted.' For Iser (1978), too, the discourse domain (text) is still a 'structured prefigurement' (107), a skeleton to be empirically and conceptually fleshed out. To respect the discourse domain as a truly open plane of cognition and manipulation it must not be limited to any prefigured constructs—which seems to conflict with its capacity to set limiting demands.

The longed-for perspective lies in the psychological fact that individuals pursue *coherent* story constructs (at least from Bever 1970; Black & Bower 1980; Trabasso & Sperry 1985 to Graesser et al 2011 and beyond). This means that while progression demands are brought along with the narrative work itself, they need a coherence-seeking individual to be considered as such. Accordingly, progression demands appear as complications in pursuing supradiscourses and suprastories that cohere with the individual's progressive desires. While for Ingarden narrative progression is 'reconstructing' the work, and for Iser it is 'reconstituting' the work, this article takes one more step away from those deep-structures by perceiving the demanding progressive act as the *construction* of the work.

All narrative progression is contingent upon the narrative work's artifactual discourse domain. But instead of understanding the signified of that empirical foundation as a prefigured canvas with occasional blank 'gaps' or 'places of indeterminacy,' here it is rather a diverse compilation of spots some of which are more determinate than others. These inversed, particularly insistent spots, *points of determinacy*, if you will, have the tendency to lure individuals into expanding their supradiscourses and suprastories toward specific arcs. Rising against the demands that obstruct pursuing those arcs is never compulsory, if often appealing.

What happened with *The A.B.C. Murders* in the introduction functions as a case in point for the story domain. There was no obligatory need for the reader to complete the suprastory with an ending in which Poirot solves the murders in his peculiar manner. But since the reader wished to conceptualize the final signs of the work in that specific context (as a logical and comprehensive explanation to all events), progress on the story domain stopped; the reader could not fit the pieces together in the desired way. It would have also been possible to finish the suprastory so that the mystery was left unsolved, yet the reader chose to reject that option and discontinue suprastory construction for such resolutions did not satisfy the coherence condition (see Jahn 1999; Herman 2002; cf. Mikkonen 2011). The narrative work was demanding on the story domain, but a reader who was interested in Poirot's explanation was required to activate those specific demands—a reader who would have been interested in other things, such as the weather conditions of the mystery, would have activated very different demands.

In the discourse domain demands surface in an analogous way. In addition to the usual mouse-clicks and typing, computational hypertext novels like Porpentine's *Howling Dogs* (2012) invite the reader to overcome empirical roadblocks by promising narrative information in return. If the reader wishes to progress the story toward its 'designed end,' some nodes must be visited in a specific order. Accessing the critical 'visor' node, for instance, is blocked until the reader visits the 'nutrient dispensers' node: "The visor won't release if you don't eat and drink first." While such obstacles unquestionably prevent the reader from reaching nodes that the author most likely wishes the reader to visit, fulfilling that wish

still depends on the reader. It is not an 'essential aporia,' to use Aarseth's term, but only one insistent empirical point that invites the reader to expand her or his supradiscourse toward a specific arc. The option to continue exploring the work via other nodes (and modes) still remains.

The preceding observations are most significant for comprehending the storygame as a narrative work. In storygames (again: videogames that invoke story construction in their players) the empirical points of determinacy that invite the individual to progress specific arcs are normally supplemented by demands the confronting of which is so appealing that one is not likely to resist. But none of these demands are ever compulsory; there is always the option to disregard the demanding situation: players of *Skyrim*, for instance, may well choose not to seek the dragon god Alduin (to which most narratologists would probably attach their 'kernels') but focus on building a butterfly collection instead. While the storygame in question supports both event sequences, most players probably consider the former more exciting; which, however, is not yet a proof of its invalid status as a producer and editor of story constructs (i.e. mental chronotopes of events, entities, and their indexical relations).

Providing the possibility to progress narrative works through those demands that one likes best is undoubtedly an aesthetic merit that explains some of the commercial success of storygames. This is most likely also the reason for which many recent titles like *Grand Theft Auto IV* (Rockstar 2008), *Assassin's Creed: Revelations* (Ubisoft 2011), and *Dragon Age: Inquisition* (BioWare 2014) choose to employ open (world) structures that provide an immense variety of invitations to overcome its outsized selection of optional demands. The diversity of that variety receives a typological treatment in the next section.

STORYGAME AS NARRATIVE WORK

This section presents two analyses. The first is to typologize progression demands. The second is to identify the storygame by its progression demands. In keeping with Ryan's (2007) observation that computer technology is the core factor in the merging of the "narrative dimension [with] games of physical skills and strategic thinking" (13), the hypothesis is this: narrative works set several types of progression demands, and those narrative works that are to be considered 'storygames' set special physical and strategic progression demands. A general taxonomization of progression demands leads the way.

It is once more necessary to remember that progression demands surface in both domains of narrative works, the empirical and the conceptual, hence *discourse demands* and *story demands*. The most central difference between the two is that discourse demands, being empirical, may entail *perception* and *input*, whereas story demands, being conceptual, may not.[10] Drawing from Veli-Matti Karhulahti's (2013a) structural theory of challenge, there is also a third type of demand exclusive to the discourse domain, namely the *strategic demand*. Furthermore, Karhulahti separates strategic demands from the *puzzle*, which can be considered the solitary type of demand that may surface in both domains. The demand types call for closer inspection, but first the preliminary list of progression demands:

Puzzle demands	— narrative progression without input	(in discourse / story domain)
Perception demands	— narrative progression without input	(in discourse domain)
Input demands	— narrative progression with input	(in discourse domain)
Strategic demands	— narrative progression with input	(in discourse domain)

It is initially worth noting that whereas this article talks about *demands*, Karhulahti talks about *challenges*. Evoking the earlier distinction between trivial and nontrivial demands, the difference can be phrased like this: challenges are by definition nontrivial, whereas demands may also be trivial. Turning book pages, for instance, is an input demand for anyone who wants to move to the next opening, yet for very few does it provide a challenge.

As is clear by now, all narrative works are demanding for they always set some discourse and story demands. A more significant observation is that not all narrative works are necessarily challenging. Since the surfacing of challenge depends on the skills and ambitions of the individual, there are no challenging

[10] From the legacies of Burke (1941) and Dufrenne (1973) to recent literary criticism (see Goggin 2009; Herman 2013) several scholars have reminded that conceptual progression of a narrative (or another) work involves not mere intellectual solving but also bodily action. There is no need to claim otherwise hereyet nor is there need to complicate the postulated model by theorizing the demands of suprastory construction in extra-conceptual terms (for now).

or nonchallenging narrative works in an objective sense. But there are challenging and nonchallenging narrative works in a subjective sense: a narrative work is challenging if progressing it is an uncertain activity for an individual either in the domain of discourse or story.

For the everyman (and many scholars no doubt) it is exactly the subjectivity of empirical challenge that seems to distinguish storygames from other narrative works: storygames are those narrative works that are challenging in some way in the domain of discourse. Simply put, if the individual feels that her or his abilities make empirical narrative progression (advancing the supradiscourse) uncertain, she or he is inclined to consider the work a story*game* rather than some other narrative work (in which advancing the suprastory is typically more challenging). For example, *Zork* (Anderson et al 1979) and *Galatea* (Emily Short 2000) are mechanically rather identical text-based narrative works, yet since the empirical solving of the former is extremely difficult it is not surprising to find it usually described as a storygame; contra the empirically less laborious latter, which is more commonly associated with categories like electronic literature.

While the above approach appears to explain the difference between storygames and (narrative) literature in daily conversation, this article offers an alternative that should be of more analytical value. The alternative is based on Karhulahti's distinction between strategic challenges and puzzles:

> strategic challenges entail configuring dynamics; puzzles entail configuring statics alone ... In static systems consequences are determinate, whereas in dynamic systems consequences are indeterminate. (2–3)

For a challenge or demand to be strategic, it thus requires a 'dynamic' system (discourse domain) in which the consequences of input are indeterminate. Chess shall serve as an example.[11]

The challenges of chess are strategic because the game is dynamic. What makes chess dynamic is the opponent (living or programmed). Players can never know the final consequences of their moves since the opponent's countermove is indeterminate. While these strategic situations do offer more and less efficient moves, they never offer correct moves. Players cannot solve chess.

The same chessboard can also display static chess puzzles (Fig. 2). The challenges of these situations are not strategic, as there is no opponent or other dynamic components that could make the consequences of input indeterminate: all information required for figuring out the winning move is available. Here (game) *playing* has turned into *solving*. In a puzzle, the lack of indeterminacy enables it to be solved by figuring out the correct move (or moves).

For the present study the decisive insight is that non-computational narrative works have a hard time providing strategic demands. Because those works do not maintain the computational artifactuality that enables empirical indeterminacy, they simply lack the (bio)technological hardware on which strategic demands are built. With Iser (1993), one might refer to this indeterminacy as the condition of 'endless' play that in the (materially) classical narrative work "cannot be maintained, since the text itself is limited" (257). This 'limit' is a mechanical property of the codex and the like, imposed by their non-computability; keeping in mind that the discourse domains of all narrative works are finite in an artifactual sense.[12]

Strategic situations like choosing between different lines of dialogue in the storygame *Planescape Torment* (Black Isle 1999) (Fig.3) conceal several indeterminate consequences in the dynamic discourse domain: the protagonist's behavioral properties, the interlocutor's behavioral properties, their relations to other characters, and so on. A tense situation may be resolved by choosing to escape, lie, or stall, or maybe by confronting or psychologizing the interlocutor, but each of the options have different consequences that are not known

11-1 'Unpredictable' could be a better word here than 'indeterminate.'

11-2 It might be worth comparing the strategic challenge or demand against van Dijk & Kintsch's (1983) 'discourse strategies' in which "the concern is not merely with reaching a goal, but with reaching it in some optimal way" (62). The palpable dissimilarity is that whereas van Dijk & Kintsch talk about strategic *processes*, strategic challenges and demands are (parts of) dynamic *systems*.

12 Iser still insists on calling his literary works as 'games' or the makers thereof. The game metaphor has been exhausted by literary theorists to an extent that requires no reference, yet it is still difficult to find sources that cognize its ambiguity (cf. Beaujour 1968). In the ongoing attempt to identify the storygame the notion of 'game' ceases to act as a metaphor and denotes actual dynamic properties that enable strategic and time-critical demands in addition to conceptual solving: "a game may also include puzzles, but a puzzle can never constitute a game" (Karhulahti 2013a, 4).

beforehand. Whether one gets caught lying or not is uncertain; and while a successful lie will have a positive effect on the protagonist's skills and keeps the situation calm (for a moment at least), getting caught lying leaves the protagonist's skills unaltered and easily results in a brawl that does not affect only the two brawlers but the virtual environment as a whole (not least nearby characters). While the protagonist may act in several other ways as well (move, barter, steal, join organizations and so on), all those ways share one important function: they are not only acts of choosing paths in forks but also responses to the storygame's strategic progression demands.

While there is no reason computerized narrative works cannot entail strategic input one day—along the lines of *Prom Week* (McCoy et al. 2012) and *Blood and Laurels* (Emily Short & Richard Evans 2014)—without being reviewed as 'storygames,' the day is yet to come. Until then, the strategic input demand seems like the strongest analytical candidate that defines the storygame's revolutionary narrational identity.

Narrative works like films that are not dynamic themselves but require dynamic hardware to be viewed could be used as eligible counterexamples. One could claim, with David Bordwell (1985), that in some films, like Jacques Tati's film *Playtime* (1967), the screen is repeatedly filled with contemporaneous events so that the spectator needs to develop 'scanning strategies' in order to perceive those parts of the work that are significant for her or his progressive desires (cf. Thomson 1979). The perceptual progression demands of narrative works with such restricted 'reading time' (Eskelinen & Koskimaa 2001) do not, however, correspond with the notion of 'strategic' as it has presently been defined. It is

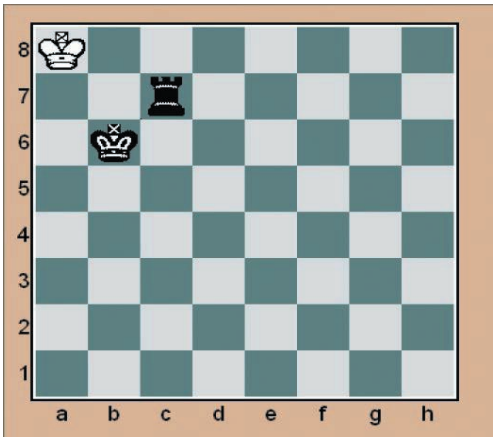

Figure 2. A chess puzzle. How to win in one move?

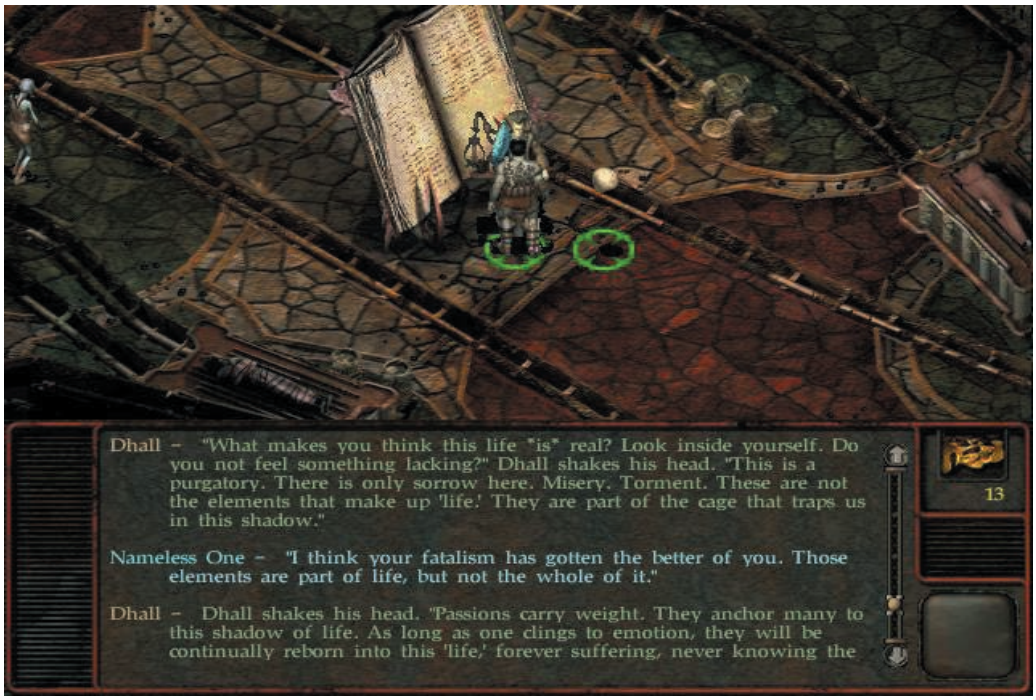

Figure 3. *Planescape Torment*.

Figure 4. *The Walking Dead*. On the left: one the must choose how to respond before the time bar (below) runs out. On the right: *The Walking Dead* is divided into 2–3 hour episodes, and after each episode one can see how her or his choices relate to those of others. Note that not all 'choices' in *The Walking Dead* are constructed solely by means of singular actions (as in 'forking paths'); ending up with a specific 'choice' is better described as an accumulation of actions that are in concert with the arc that materializes as a 'choice' post hoc.

more suitable to refer to them as demands of *time-critical perception*.[13]

Another demand that comes close to the status of an identifying aspect of the storygame is *time-critical input*. Turning book pages has always entailed input, but in storygames it is often not "enough to press the jump-button at the right place ... it must also be pressed at the right time" (Karhulahti 2013b). While time-critical input demands have been part of videogaming at least from *Spacewar!* (Steve Russell 1962), in storygames the aspect did not proliferate before the 1980s. The time-critical input demands of contemporary storygames are more and more frequently chained to narrative techniques: in *The Walking Dead* (Telltale Games 2012) and *Beyond Two Souls* (Quantic Dream 2013), for instance, one is forced to act under time pressure in situations where the stake is not simply failure or success, but rather the fate of the characters (Fig. 4).

It is not difficult to find narrative works that evade the 'storygame' marker but still entail time-critical input. Stuart Moulthrop's *Hegirascope* (1995) is an oft-cited piece of electronic literature in which the reader's progressive desires are constrained by time limits that make accessible links appear and vanish. Time-critical input is not unique to the storygame, but a common feature of computerized narrative works in general.

The final update to the typology of progression demands requires remarking that strategic demands may also appear as *time-critical strategic* demands, as the mass of action storygames confirm. The puzzle, in turn, is never time-critical per se due to the static nature of its components: its 'reading time' in a narrative work may be restricted, yet that only poses separate demands (of time-critical perception and input) that are not part of the puzzle's conceptual form. This ontological glitch shall be discussed in the next subchapter in more detail. The final list of progression demands:

Puzzle demands	— narrative progression without input	(in discourse / story domain)
Perception demands	— narrative progression without input	(in discourse domain)
Time-critical perception demands	— narrative progression without input	(in discourse domain)
Input demands	— narrative progression with input	(in discourse domain)
Time-critical input demands	— narrative progression with input	(in discourse domain)
Strategic demands	— narrative progression with input	(in discourse domain)
Time-critical strategic demands	— narrative progression with input	(in discourse domain)

Narrative works have set the first four kinds of progression demands at least since the invention of moving pictures. Such materially classical narrative works are *demanding narrative works*. With few exceptions, narrative works that set the last three progression demands seem to have been around no longer than the invention of the computer (whenever that is considered to have happened). Such materially postclassical narrative works have become *extrademanding narrative works*.

[13] Films are considered narrative works here not on the basis of the impermanent phenomena that occur as they are shown, but on the basis of the permanent phenomena: the reel, DVD, etc. Consequently, it is possible to conceive of the film also as time-critically non-demanding: if the spectator had control over slowdown and playback, one could arguably claim that its perception is not time-critically demanding. Would this be a case any different from progressing storygames with cheat codes?

STORYGAME AS LITERATURE

The contemporary identity of the storygame appears to be defined first and foremost by three progression demand types that non-computational narrative works have a hard time setting: *time-critical input*, *strategic input*, and *time-critical strategic input*. While recent electronic literature has incorporated time-critical input demands to a great extent, almost all notable applications of strategic demands seem to be found in storygames, for the moment.

Just as the time-critical (and the emerging strategic) experiments in electronic literature can be considered cultural mutations whose study might sometimes require more ludic than literary research tools, so too does the storygame phenomenon have its anomalies that fit structurally better into the categories of literary narrative phenomena—even though they are persistently played and studied as 'games.' The concern for the rest of the article is to identify these storygame exceptions as classically demanding narrative literature so that they can be consumed and scrutinized with the narrational concentration they deserve. This is not, to be clear, an attempt to deprive the storygame status from the ludo-abnormalities in question, but an attempt to point out the importance of their identification.

What is of most interest here are those storygames the demands of which consist of mere perception, input, and conceptual puzzle solving; that is, the demands that have been set by narrative literature for centuries. There are surely worse ways to begin this part than by citing Markku Eskelinen's (2004) remark in which he questions the exceptional literary identity of basic hypertext:

> we could wonder whether it was quite enough after all [for classic hypertext] to borrow the convention of the jig-saw puzzle and force or challenge the reader to complete it. A puzzle is a puzzle is a puzzle, a monologic experience if any.

Although the node labyrinths of hypertext novels do often ask the reader for an exceptionally high number of inputs if she or he wishes to gather the information required to solve it, the solving still happens via the same static reasoning as in all literary riddles. A hypertext novel like *Afternoon, a Story* (Michael Joyce 1987) does not turn into a strategic game because its static node-puzzles occur in an electronic form that differs from narrative conventions (cf. Bruss 1977; Wilson 1981; de Lay 1988).

Intriguingly, a firm tradition of videogame research has been able to distinguish these puzzle-only storygames as an individual genre for more than three decades under the brand 'adventure game' (e.g. Buckles 1985; Myers 1990; Tosca 2000; Fernández-Vara 2009; Lessard 2013). At the same time, however, many scholars have been using 'adventure game' as a more vague signifier for all videogames with story components (e.g. Aarseth 1997; Manovich 2001; Salen & Zimmerman 2003; Bogost 2006; Murray 2012). For future reference, the genre shall thus be isolated as the *classic adventure game* (Fig. 5).[14]

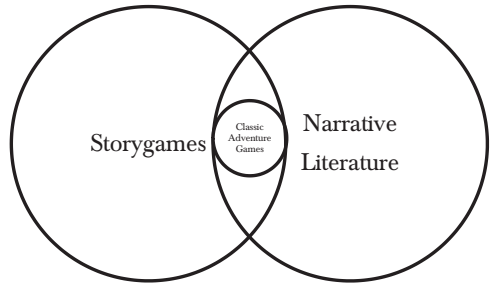

Figure 5. The ontological positions of storygames, classic adventure games, and narrative literature in the demand-based framework.

So far the primary interest of classic adventure game research has been the puzzle that obstructs the empirical progression of its discourse domain (e.g. Myers 2003; Pias 2004; Costikyan 2013). Such puzzles appear in all storygames, but since the classic adventure game does not set strategic or time-critical demands it is by and large the richest source of these particular roadblocks. A typical puzzle in the discourse domain prevents the individual from progressing toward a specific empirical segment of the work: if one is not able solve the

[14] Aarseth (1997) nonetheless anticipates the special storygame status of the classic adventure game by his distinction between two ergodic classes, solvable 'anamorphic literature' and unpredictable 'metamorphic literature' (178–182). For those who read Finnish, it is also worth visiting Eskelinen's (2002) remark on 'dynamic texts' (25). Liddil (1981), in turn, was the groundbreaking non-academic writer to distinguish the classic adventure game from other storygames in his journalistic work. For the present state of the genre, visit e.g. [adventuregamers.com], [adventurepoint.co.uk], [adventureclassicgaming.com], and [adventurelantern.com]. For the genre as a social institution, see Salter (2010) and cf. Montfort & Short (2012).

final puzzles in the classic adventure game *Wizard and the Princess* (Sierra 1980), one cannot proceed to the section in which the princess is saved. Solving those puzzles removes the roadblocks and the happy ending becomes readable (and perceivable). Accordingly, the final challenge is to show that such discourse-blocking puzzles surface also in the story construction of narrative literature. With respect to the widely supported structural analogy between riddle solving and story construction (e.g. Bal 1985; Buckles 1985; Suits 1985; Danesi 2002; Montfort 2003), a well-known case shall exemplify:

> As I was going to St Ives
> I met a man with seven wives
> Every wife had seven sacks
> Every sack had seven cats
> Every cat had seven kits
> Kits, cats, sacks, wives
> How many were going to St Ives?

Riddles like this one have prevented progressing the discourse domains of storygames from the very first *Adventure* (Crowther & Woods 1977), yet by omitting the last line the riddle's description and sequence of events could well be part of any codex novel. In such case, the reader of the novel would have to synthesize the segment into her or his suprastory, most likely following one of these two general schemes:

> Several characters are going to St Ives.
> Only the narrator is going to St Ives.

The correct[15] answer to the riddle corresponds with B. Let it be assumed, then, that all preceding and subsequent events of this hypothetical novel, which the segment is part of, are in conflict with the 'incorrect' conceptualization but in coherence with the 'correct' one. Unless the reader manages to solve the riddle, her or his access to one segment of the work (the segment in the story domain that connects the events of the riddle to the events that follow) is blocked. As long as the reader is unable to find the 'correct' answer, rules of noncontradiction prevent her or his suprastory to be synthesized with the riddle segment.

From the postulated perspective of demands, the classic adventure game seems to come closer to narrative literature than to the storygame: its ludic peculiarity is based on the same organizing internalization of information that is required in story construction—while at the same time it does not demand any strategic or time-critical input. Approaching this narrative phenomenon as a game is a 'misadventure' (Moulthrop 1999) that disregards its culturally distinct properties. The classic adventure game might be of more interest to narratology and literary theory than to game and videogame research.[16]

[15] As the riddle does not directly state the destination of kits, cats, sacks, and wives, it is not entirely 'incorrect' to conceptualize them as heading to St Ives.

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[16-1] In Ip's (2011) comparative analysis of ten storygames, the one with the highest rate on what he calls the 'common methods' of 'narrative delivery' (108, 120) was the sole classic adventure game in the set, *The Secret of Monkey Island* (Lucasfilm 1990).

[16-2] It is important to keep in mind that the spectrum of different classic adventure games is vast. While many are entirely text-based, some include text and images, others employ text and moving images. Nowadays it is actually not uncommon for their players to be even able to switch off all readable text (and let the voice actors read it). This of course somewhat problematizes the 'literariness' of classic adventure games as a whole, yet the same can be said of narrative literature in general (novels, graphic novels, electronic novels, audiobooks, etc.).

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