

## Reading from and writing on screens: A theory of two literatures

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The discussion on electronic literature is poorly represented in handbooks on the history of literature, textbooks for higher education and contemporary papers on literature in general.<sup>1</sup> From this point of view, hypertext reception is rather insignificant and the issue of reading from and writing on screens is mentioned only cursorily. One might paraphrase Lautréamont and say that hypertext literature is as natural (interesting, enjoyable) as a chance meeting of a sewing machine and an umbrella on a dissecting table. Computers were at first associated with the natural sciences, arithmetic and everything that is connected with machines, but not art. However, this argument cannot stand any longer, as computers are now everywhere: they surround us and are even embedded into art.<sup>2</sup>

In this paper we argue that the answer to the question why the discussion of electronic literature and mainly hypertext is so poorly represented is found in the fact that there are two literatures in existence. Even though “traditional” literature is becoming entangled in digital media through its promotional, distributional and transmedial activity platforms, and as e-book readers that act as surrogates for paper are becoming more and more popular, the dominant narrative mode or linear nature of traditional literature continues to have a concrete border. On the other side of the border stands hypertext, which is multimodal, interactive and part of the new media discussion. If we accept this statement, then it is safe to say that these two literatures don’t just differ in technical terms, such as paper versus screen, but that new media literature requires a completely different reading and writing canon. This is the theory we will prove in this study.

Starting from the fact that reading from screens requires a different strategy from the traditional approach to reading, we intend to prove that the context of hypertextual, multimodal and interactive literary text demands a new theory. John M. Slatin predicted the new medium of hypertext would “involve (...) both a new practice and a new rhetoric, a new body of theory” (1990, 870).

The context of screens – and using a broader approach media convergence<sup>3</sup> – not only alters the nature of reading but changes the methods of writing and the attributes of readers and writers as well. A large-scale body of literature on the topic of reading from paper versus screens can be found in psychology, human factors and ergonomics literature. The majority of studies focus on “outcome” measures of

reading, such as speed, proofreading accuracy and comprehension (O'Hara – Sellen 1997, 335).

Our intention is to prove that there are two different literatures in existence, both with different reading/writing and interaction strategies. According to this interpretation, literary theory and history dealing with “traditional” literature consists of all previous canonized schools. As for the theory of electronic, hypertext literature, it is basically brand new and shares common origins with the “traditional” theory of literature of poststructuralism, mostly the works of Michel Foucault, Jacques Derrida, Gilles Deleuze, Jean-François Lyotard and Roland Barthes. One of the reasons for the lack of parity lies in the fact that this new discipline found its focus of investigation not only in text but in image as well and may be called new media theory. We have reason to believe that digital mediums and the appearance of text on screens have given rise to a new literature. There is some similarity between “traditional” and new media literature that can be observed in simply digitalized, non-hypertext forms of literature that appears on screens and also in printed texts that contain links, footnotes and concordances, for example. But these are still part of “traditional” literature. In spite of our intention to present only technical details of the utmost importance in our paper, the topic in question requires some description of info-communication and digital technology. All the recent developments in e-book reader screen technology converge in the same direction. Their aim is to provide a perfect illusion of paper by using the latest e-ink technologies and at the same time to create an e-book reader that in form imitates the body and usability of a book. Traditional literary text appears more often in the environment of e-book readers, but new media devices (computers, smartphones and tablets) are equipped with screens for multimedia content. And their characteristics do not make them suitable for reading long literary texts.

### THE THEORY OF TWO LITERATURES

At this point we have to partially challenge Iser's statement, in which he argues “This world [where sentences link up in different ways to form more complex units of meaning that reveal a very varied structure, giving rise to such entities as a short story, novel, etc.] does not pass before the reader's eyes like a film” (1972, 5–6). Compared to new media literature, the world of traditional literature does pass before one's eyes like a film. He/she is just a viewer.

Let's go back in time to the point where there were no computers and pretend for a moment that traditional literature is cinema (which can be experimental, seeking new ways of expressing itself), while new media literature is theatre. In analogue (not digital) cinema, as much as it tries, a film cannot step off the screen and viewers cannot interact with its art: a film cannot be made and presented at the same time (in real time). On the other hand, hypertext is experimental theatre, where a play can become interactive and can be made and presented in real time while involving the audience.

In other words, the fundamental difference lies not between reading from a book or screen but between reading traditional literature and hypertextual works that contain images, sounds and clips and texts that are interlinked and require real interaction on the part of the reader.

For the past twenty years the exclusion of hypertext theories from the general discourse on literature, despite the fact that the altered function of reader/writer forms a constant thread in Barthes's works, has made it clear that there are two literatures. Even so, the many parallels between hypertext and critical theory have many points of interest. Perhaps the most important is that "critical theory promises to theorize hypertext and hypertext promises to embody and thereby test aspects of theory, particularly those concerning textuality, narrative, and the roles or functions of reader and writer" (Landow 2006, 2). George Landow stressed this parallel much earlier in his work *Hypertext 2.0*, but the question has never been embraced by the global discourse on literature. There are also several radical approaches. For example, Young In Seo (2004, 263) argues that the main purpose of hypertext theory "is to clarify the embodiment of the new paradigm of the digital age in the course of reorganizing traditional analog literary field into the digital online literary field." But this would be rather difficult as the canon of the book lies on firm foundations, as it is supported by a long tradition of academic institutions. Interlinked, interactive hypertext does not share the same tradition, as its history is recent. The technical determination of hypertext, its dependence on literary hypertext writing tools (and their disappearance, only to be substituted by common web page creation software and word processors), the potential of new media to let consumers produce art and thus become prosumers (user-generated content) is inconceivable in the context of the book.

## TWO TSUNAMIS OF RECEPTION

The intensity of discourse on hypertext has increased twice. The first time was when literary hypertext writing systems were introduced by Eastgate.com, around 1992. These made possible the publication of the *Victory Garden* and *Patchwork Girl*. The first tsunami of reception centred on novelty, digital culture, technical solutions and software environment, and expressed the desire of scholars who wanted to see the theories of the death of the writer, proving the existence of a writer/reader function. Anne Mangen (2008, 407) suggests the publication of Michael Joyce's *Afternoon, a story* started an extraordinary enthusiasm for hypertext both aesthetically and theoretically, including various prominent authors and literary scholars. Even after almost thirty years of theorizing and creative activity since hypertext appeared, its supporters are still steadily announcing hypertext fiction as the final visible sign of the future of books. However, hypertext fiction remains a rather difficult field of interest to understand. The breakthrough has failed.

The second contemporary tsunami of hypertext reception was also triggered by technical development, i.e. media convergence, the arrival of high definition mobile screens and ubiquitous computing. The contemporary theory's focus is mostly on the application and use of hypertext and online media in the learning process (Seong 2012, Molnár et al. 2014) and, somewhere around 2010, much less on literary issues. Still, more studies are needed on the experience of reading hypertext, as "the format of text does significantly influence the recall comprehension level of readers" in books and hypertext (Sung 2009). At the end of our paper we present our own study conducted in March 2015. The shift toward images and the involvement of visual

communication theorists is also specific to contemporary hypertext theory. This fact can be interpreted as the end of literacy theory domination over hypertext.

To support the theory of two literatures, we must turn to basic hypertext theorists such as Theodor Nelson, George Landow, Espen Aarseth and Jay David Bolter. Ted Nelson, early in 1964, coined the term hypertext while stating that the literature is a system of interconnected writings and text. The first complex hypertext theory comes from Theodor Nelson. In 1974 Nelson published *Computer Lib: Dream Machines*, where – in his zealous style – he suggested that hyperlink is an opportunity to jump from one part of the text to another, from one text to another. He argued that this simple tool, the link, gives life to various new text forms in literature, teaching and science.

### HYPertext AS A TOOL, AN EFFORT AND A PERSPECTIVE

“Hypertext is a perspective” (Aarseth 1997, 5).

It is now common knowledge that hypertext changed reading and writing habits. On the surface the reader detects that some parts of the text are underlined and they connect nodes. Hypertexts are interactive works which force readers to make choices on the basis of their personal interests or preferences. Hypertext creates the possibility of multiple readings and dissolves the linear, sequential order of printed books. It often includes interactive multimedia and can be characterized by multi-sequential text patterns or nodes (McNabb 2005–2006, 76). According to Nicolas Pethes’s (2001) theory, hypertext is a tool that bypasses the partition of text and its subject by revealing that the meaning of text should be sought in how that text functions.

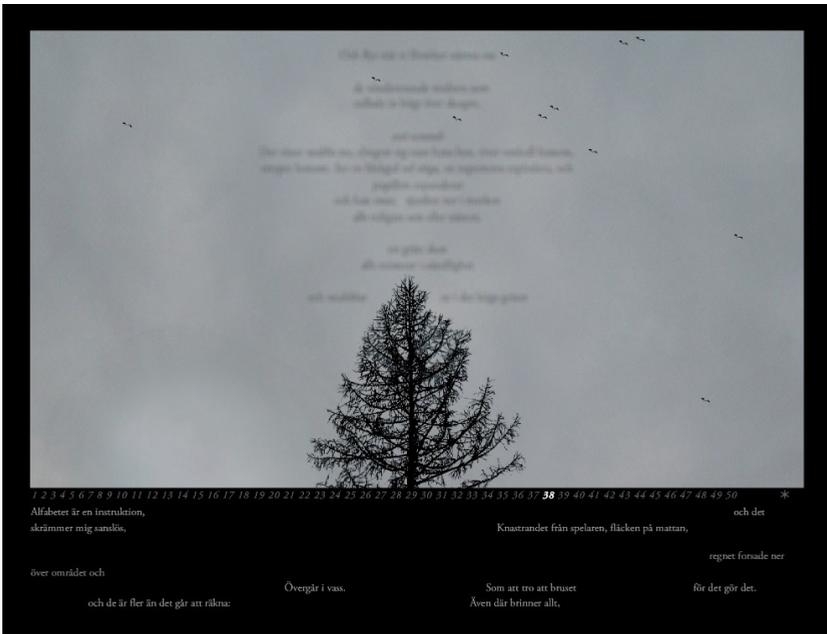
David Solway (2001, 341) gives an even more abstract explanation. According to him, hypertext disperses and distracts attention, splintering the reading mind into a billion pieces, drawing a labyrinth of links, creating webs of nodes, maps, illustrations, diagrams, sound bites and animations. By accepting this theory, we agree that the text is not augmented but vaporized by such practices.

Most scholars have stated the fact that hypertext is radically different from more traditional forms of text and from the “traditional” body of literature itself. Its novelty is an important element in Slatin’s theory. Slatin suggests “hypertext [is] a new medium for thought and expression, the first verbal medium, after programming languages, to emerge from the computer revolution” (1990, 870). He then adds that the computer has spawned new media in the visual arts and music as well. However, we would like to point out that the revolution in the visual arts has been more radical, as it has changed the existing canon of visual arts and not just introduced a parallel theory as is the case in literary science. Slatin then goes on to say that as a new medium, hypertext is different from both word processing (digital text editing) and desktop publishing. These two technologies have had an enormous effect on the production of texts but have set their goals within the production of conventional printed documents. Contrary to them, hypertext belongs to online, new media.

### CONTEMPORARY HYPertext WORKS

In order to support our theory, in this chapter we present four hypertext works, three published under the curatorship of ELMCIP in the *Anthology of European Elec-*





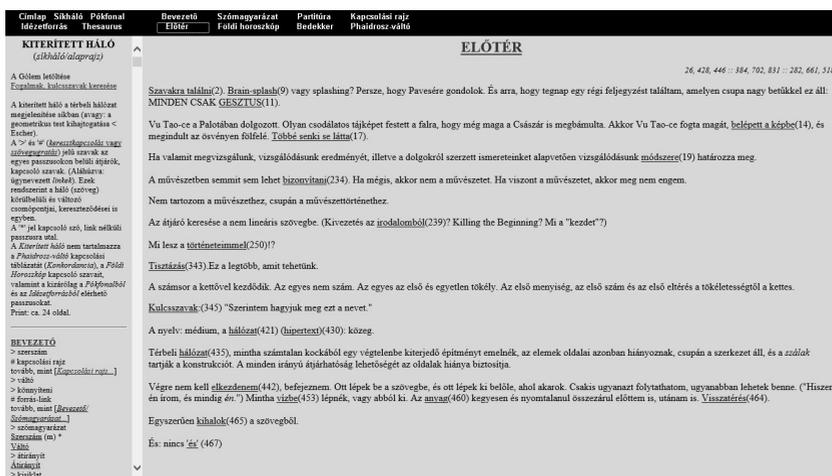
Screenshot 2

Another piece, *Loss of Grasp* by Serge Bouchardon, and Vincent Volckaert, is a digital creation about the notions of grasp and domination. The main question of the work is “when do we feel we have a grip on our life or not?” The six scenes intend to present a character who is losing grasp. But this character is allegorical, as “this play on the grasp and the loss of grasp mirrors the reader’s experience of an interactive digital work.”<sup>7</sup>



Screenshot 3

A historically significant Hungarian hypertext piece is *Gólem*,<sup>8</sup> by Péter Farkas, a work which was published between 1997 and 2005 online. It is an example of a primary, non-multimodal, highly interactive text labyrinth. *Gólem* is built on a loose spatial structure, and all of its nodes are interconnected, so the reader can roam almost freely. On the home page, the author states “The most important methodological characteristic of *Gólem* is that it is written and it can be read in a hypertextual network. The computer itself [and the technology] play just the simple role of the tool.”<sup>9</sup>



Screenshot 4

## READING FROM THE SCREEN

When the computer screen took its permanent place at the “home altar”, first next to and later replacing TV screens, discussion on reading from screens began. We all know the arguments brought into this discussion: reading from screens differs from reading from a book in technical terms; the reader’s eyes get tired easily; clicking and scrolling is a distraction; the body of the book has metaphorical significance.

In this section, we seek to address the issue of reading from screens. Our main argument is that non-interactive and non-hypertextual literature and e-book readers, which in every aspect try to imitate paper and ink, are part of traditional literature.

Together with O’Hara and Sellen, we have to ask the trivial question, what is reading? We can only reply “reading is a highly practiced activity which forms a component of a wide range of different activities, and which serves many different purposes.” A text can be read by skimming it quickly, scanning for keywords or information, or reading it for comprehension or reflectively (1997, 336). While discussing the issue of reading from screens, we have to point out again that in this paper we don’t seek to address the question of reading non-hypertexts or e-books from screens, as they don’t allow any level of interaction and belong to the canon of traditional literature.

There is a constant urge to compare hypertext reading to the process of reading “traditional” literature from the perspective of immersion, joy and entertainment. Regarding the latter factor we find the arguments of Vilmantè Liubinienè and Saulius

Keturakis (2014) convincing, as they point out that storytelling has always played a capital role in our culture, as the goal or purpose of stories was to record practices, influence morals, try to explain origins, and perhaps, above all, entertain. There are many reasons we enjoy stories so much. One is that stories are linear, and linearity ties down and stabilizes the world we are trying to describe. The reader can get to the end and at the same time enjoy the story only if he/she reads the whole thing, right from the beginning. There is no other way. As he/she reads the story, an urge appears to become connected. If one emerges him/herself deep enough, he/she will get involved and will place him/herself in the middle of the story. Then he/she will face the same dangers and feel the same sadness the characters feel. But reading new media works – that are interactive and multimodal, i.e. that combine text, picture, video and sounds – is a different experience. Liubinienė and Keturakis insist “while these qualities are very helpful in many genres, they can be bad for storytelling. If a story is broken up in such a way that the reader loses the direction, the reader might lose the interest as well” (2014, 1). Regarding formal aspects of the text, Slatin (1990, 871) suggests that on the surface, or observing from a distance, the reader is on a certain level general subject matter; he/she sees the concept of topics and subtopics in the text, as well as keeps in mind chapters, and subchapters, while he/she reads.

There is another aspect of reading besides storytelling that needs to be discussed, and it is the reader’s involvement and level of interactivity allowed. In the case of “traditional” literature, Aarseth points out that the reader, who can even be strongly “engaged in the unfolding of a narrative, is powerless” (1997, 4). He/she is nothing but “like a spectator at a soccer game, he may speculate, conjecture, extrapolate, even shout abuse, but he is not a player.” Aarseth continues with examples: “Like a passenger on a train, he can study and interpret the shifting landscape, he may rest his eyes wherever he pleases, even release the emergency brake and step off, but he is not free to move the tracks in a different direction” (4). In the end, he/she has no influence, is powerless, and feels just a simple joy of voyeurism.

Generally speaking, links in hypertext make the immersion into reading and the story difficult. They constantly – during every hyper jump – bring the reader up to the surface, while nonlinearity urges the same reader to run through the text, to get as far as possible, to unveil as many mysteries hidden behind links as possible. The result is shallow immersion and missed parts and missed meanings of the text. But a fictional world, on the other hand, based on a book, is a product of our imagination in a place where we can immerse ourselves. Mangen (2008, 406) found “this is the kind of immersion we experience when reading a page-turner novel, [so] the physical and technical features of the material support—the book—are ideally transparent in order to facilitate, and not disturb, phenomenological immersion.” Still, in early hypertext fiction, published by Eastgate, the authors – programmers – calculated for possible omissions in the user’s (reader’s) experience.

Returning to storytelling, according to the classical theory, the reader is required to start at the point that is marked by the author – i.e. the beginning. But the writer’s hands are tied as well. Maybe the hardest choice he/she has to make is where to begin the story, to decide where to start and, finally, where to end. But in hypertext the will

of the author is absent: the reader can take any path designed by the author. Early studies on reading from screens focused mostly on the process and efficiency of reading from computers, rather than issues like comprehension and learning. We again have to point out that these studies were carried out in a very different computer environment, and in the context of significantly lower screen resolution.<sup>10</sup> Several studies of reading from screens examined readability, the pace of reading, etc. The results mostly revealed that reading from a book was superior to reading from the screen. The way we read has changed; other things divert our attention. Zwaan and Radvansky (1998, 165) argue “any part of the reading process may be dependent on one very important factor: working memory.” In the case of hypertext reading, the process of understanding does not only differ because of the technical surrounding (such as backlighting or flickering electronic text – something typical of early displays – font and spacing type, as well as scrolling versus page turning). But, most importantly, as a phenomenon connected to immersion, mind-wandering – alongside working memory capacity – plays the most important role in reading comprehension. Mind-wandering and the reader’s path choices are correlated (Margolin et al 2013, 612).

If we analyze reading as a complex activity, we can conclude that Gutenberg’s invention made only minor changes to reading anthropology compared to reading from screens. The appearance of the book page dates back a thousand years and originates from the phenomenon of the codex. The codex was the first written medium to cause a paradigm shift. Before that, a scroll formed a close alliance with its content. Having read a scroll meant having read a complete work. A codex, on the other hand, contained various works bound together. Later, paragraphs were added to the text, and it was divided into nodes, just as in the case of the hypertext. In order to separate works, “explicit” and “implicit” formulas were added to texts. The codex changed the physiology of reading. The body of the book required different gestures and reading strategies, but it basically remained the same for centuries. In the 16th century the French king ordered that paper sizes be standardized and that those who didn’t obey this law be imprisoned (Tószegi 2009, 27 – 28).

The body of the text is of importance in Mangan’s studies (2008, 405) on reading. Mangan argues that reading is a multi-sensory activity, where the handling of the body of text by hands and fingers is required, and “haptic perception is of vital importance to reading,” so “when reading digital texts, our haptic interaction with the text is experienced as taking place at an indeterminate distance from the actual text,” as opposed to reading books where “we are physically and (...) literally in touch with the material substrate of the text itself.” Mangan strongly suggests that materiality matters.

## WRITING ON SCREEN

The computer argues Jay David Bolter (1992) “simply by giving visual expression to our acts of conceiving and manipulating topics” altered the very nature of writing. We now possess the power to construct digital text easily, simply by cutting, copying and/or deleting it. And we cannot neglect technology anymore, as “our technical relationship to the writing space is always with us. Even whilst speaking, writers tend to think in terms of sentence and paragraph structures. Writing is not just topical anymore, it is ‘topographic’ (...) Electronic writing is both a visual and verbal descrip-

tion. It is not the writing of a place, but rather a writing with places, spatially realized topics” (25). If we incorporate these suggestions with the theory of David S. Miall and Teresa Dobson (2001) which holds “hypertext more naturally embraces graphic representations, such as a tree or a network diagram, or an image map. Thus hypertext advocates are drawn to promote the visual over the verbal or the abstract order of the book. In fact, the underlying structure driving a hypertext may exist literally as a map.” We can particularly argue that this map stays hidden from the reader as he/she is not aware of all the branching – the nodes – in the text.

An example deserves our attention. The phenomenon of writing on screens has changed the literary tradition in Korea. The urge for faster communication on screens has weakened the dominance of Chinese language and literature in Korea. For centuries, the literary activity of the dominant class in Korea was conducted in Chinese, and Chinese language and characters stayed dominant until a national literature was developed, but Chinese-language poetry remained part of the curriculum in schools, and Chinese characters remained in use in Korean everyday life.

It is estimated that educated Koreans at the end of the 20th century knew about 2,000 characters by the time they graduated from high school, and a minimum of 1,800 characters is needed for classical Chinese education (for more on the topic see: Wang 2006). This number is plummeting, as young people in the most interconnected informational society, Korea, switched from traditional media to online media, from traditional communication forms to chatting, i.e. writing on screen. As a result of this change, the pace of their communication processes has changed. It is now much faster, and using Chinese characters is simply just not fast enough. As a retrograde consequence, because young people use Chinese characters less and less in everyday life, these characters are, together with Chinese poetry, disappearing from the high school curriculum. As such, the phenomenon of writing on screens has had an impact on the literature of Korea.

### ICONIC TURN ON SCREEN

William John Thomas Mitchell coined the phrase “pictorial turn” (1994), while Gottfried Boehm (1994) used the expression “ikonische Wendung” (‘iconic turn’) in the scientific discourse dealing with pictures and texts. They both borrowed the rhetorical topos of turn from Richard Rorty, whose “linguistic turn” created in 1967 has endured. Gottfried Boehm declared a revolution in the approach of the image. According to Gottfried Boehm (1994, 13), such an iconic turn announced itself in a “return of the image”.

### THE READER/WRITER

French poststructuralist literary scholars have secured important roles in hypertext theory. Roland Barthes, who made so many attempts to impair the role of the author, suggests that the role of the reader in the process of reading is to augment one text into another (Barthes 1977). If we accept and project this claim onto hypertext, we can suggest that link simply concretizes this augmentation. Reading Barthes (1977, 4) further, we find the role of the reader in hypertext described some ten years before it ever came to life: “because the goal of literary work (of literature as work) is

to make the reader no longer a consumer, but a producer of the text.” Theories on the altered role of the reader suggested by Barthes and Iser could not be simply proved in an empirical manner before the appearance of hypertext. But it may seem they were never meant to be proved, as the ruling discourse on literature does not recognize that the complete body of hypertext literature is an example of these theories. For some time now we have had the ability to go beyond merely “speculating” what the function of the reader is: we are now able to observe what happens when we read hypertextual, interactive works.

According to Wolfgang Iser (1972, 12) a literary text has two poles, an artistic and an aesthetic, where “the artistic refers to the text created by the author, and the aesthetic to the realization [of the] reader.” Lanham also bases his understanding of the mechanisms behind art on two factors: “the convergence of text and reader brings the literary work into existence” (1993, 247).

First, text requires interaction from the reader, and second, it is difficult to see these texts in their complexity. The way the reader moves through text has changed; Aarseth calls this activity ergodic, and the texts that make the reader fight for its progress he calls ergodic literature. While reading ergodic literature, a serious effort is required to allow the reader to advance or push forward in the text. Opposed to ergodic literature, there is non-ergodic – traditional – literature, “where the effort to traverse the text is trivial, with no responsibilities placed on the reader except (for example) eye movement and the periodic or arbitrary turning of pages” (Aarseth 1997, 1–2). Accepting the concept of ergodic literature, we should point out that discursive linearity is “severely damaged” in hypertext. This damage can be described as “narrative auctorial speech and a relinearisation of it by the reader [as] the disorganization of linear speech has opened a way to transfer privileges from the authorial statement to the reader” (Sim and Yun 2007, 36). But the author still has an important task to perform. He/she has to make the link.

The phenomenon of reader/writer function has a pragmatic aspect. In traditional literature the writer (which is only vaporized in theory) is a real person, who can fail or become well recognized. In the case of hypertext, most of the work is done by the reader, and the writer’s chance of becoming famous significantly fades.

## A STUDY ON HYPERTEXT READING

Miall and Dobson argue that hypertext has been promoted as a vehicle that will change literary reading, especially through its recovery of images suppressed by print, and through the choices offered the reader in links. Evidence from empirical studies of reading, however, suggests that these aspects of hypertext may disrupt reading (2001, 1). In order to support their claim, in 2000 they performed two studies, where readers who read either a simulated literary hypertext or the same text in linear form. According to the findings, hypertext discourages the absorbed and reflective mode that characterizes literary reading. Fifteen years have passed since that study. Normally, literary theory would not take into account such a short passage of time when examining changes to literary reading. But in this case, time is of the essence, as in this decade and a half most readers worldwide have become acquainted with hyper-link and texts, as well as with the process of reading from screens.

In our study conducted on 17 March 2015, eighteen participants, Hungarian college students ranging in age between 19 and 21,<sup>11</sup> read a short extract from J. R. R. Tolkien's popular book, *The Hobbit*, in Hungarian, namely the part where one of the main characters, Gandalf, introduces his companions two-by-two to his host Beorn while telling a gripping story in order to divert the host's attention from the huge number of uninvited guests. The story was presented as a series of separate nodes. The six participants in the control group read the text online basically in linear format. The only interaction required of them was to click on the "next" link positioned at the bottom right of every node. They could also see the complete text (node) structure in the left page menu (see Figure 1).

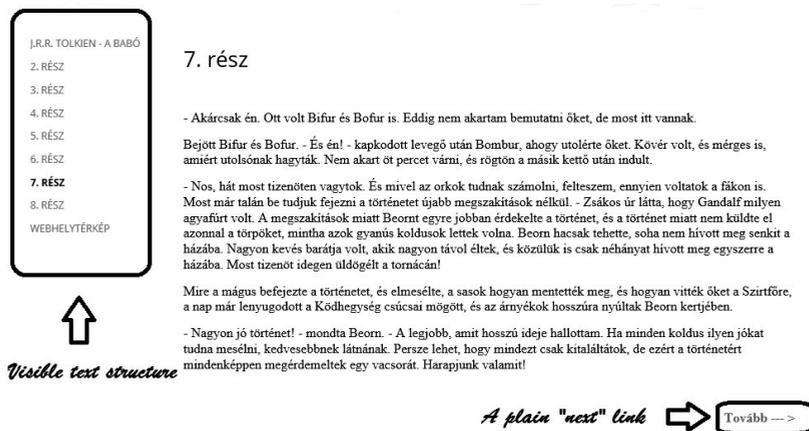


Figure 1

The 12 members of the hypertext group read the same text, but it was presented in hypertext form, where at the end of each node the readers were required to choose among three links in order to continue. As we tried to reconstruct previous studies, linked words or phrases in the hypertext version were chosen on the basis of three different literary features: visual description, plot and character. Every link connected to the same next node, but the readers at first were not aware of this, as the layout of the text was slightly different than in the case of the control group: we left out the complete menu with the text (node) structure (see Figure 2). This way, the readers had the illusion that different choices would take them to different nodes, but each link led to the same subsequent node. We had to mislead them in order to be able to have them read the same text as the members of the control group. This was the only way we could compare reading time.

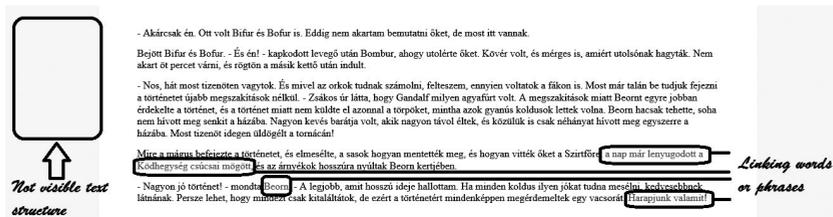


Figure 2

During the study, we examined the readers' behaviour. We recorded reading time, not by node, as previous studies did, but regarding the complete text, as we did not see the point of comparing shorter intervals. We also conducted an online survey (using Google Form) and invited students to comment on their reading experience. Summarizing results on reading times, surprisingly, we found that it took the hypertext readers on average 11 minutes and 47 seconds and linear readers 12 minutes and 48 seconds to read the full text. It took the hypertext readers one minute and one second shorter. This finding contradicts those recorded and published by Miall and Dobson in 2001, where the members of the study were also young people between 17 and 28 years of age. The reason for this, in our opinion, lies in the fact that new media literature with text containing hyperlinks on one hand is now very well known among younger readers, and on the other hand reading hypertext has evolved. Hypertext readers now tend to read faster as they are constantly searching for jumping points – links – from where they can make a leap to a new node. The reason for this stands in the faster way we gather and process information (as recreational reading is still a type of gaining information) in the digital age. As in new media, more information is delivered to us through digital channels and we try to process it faster. Contradicting the findings of Miall and Dobson, the attention of the reader is no longer diverted to the surface of the text by the hyperlinks.

Examining readers' comments about their reading experience in the control group, 84% of readers stated they would like to read this story in printed form. Comments regarding the plot mostly stated simple things, e.g. that the story was interesting to read, sometimes funny, etc. When they had to depict how they imagined Beorn's home, the answers centred on the following words: natural, wood, stone, noiseless, smoky and big. There was a question that asked readers to describe what they felt while reading. All of the readers (100%) answered: excitement, 50% of them wrote curiosity and glee, and all the answers evoked positive feelings. When asked to state the level of immersion (where 1 was shallow and 5 really deep), 66.6% chose 4 and 33.3% replied 5 (see Figure 3a).

Examining hypertext readers' comments about their reading experience, only 17% would like to read this story in printed form, and 50% answered that the links were a bit confusing but did not stop them from reading. 40% expected to find an image after clicking on a link. They commented on the nature of hypertext and its involvement with multimedia: "the nature of links is that various images can make the story more interesting"; "there is a movie made after the book, so maybe some scenes should have been included". There was a question about the links. 50% found that the links made reading difficult but fast at the same time, while 25% complained they were unaware of paths not taken and wondered what they had missed, that there were details of the story missing and they could not understand the complete plot (we have to remind ourselves that each link led to the same subsequent node). Comments regarding the plot mostly stated simple things, e.g. that Tolkien is their favorite writer or that because they have seen the movie, it was easier to jump into the text in medias res, etc. When they had to depict how they imagined Beorn's home, the answers centred on the same words as was the case of the control group: natural, wood, stone,

noiseless, smoky, big. Only one new description emerged: dark. There was a question in which readers had to describe what they felt while reading. Compared to the answers from the control group, a negative tendency was observed, with 33% of readers complaining about puzzlement, while only 25% wrote they were excited while reading. Also, only 58% had generally positive feelings. When asked to state the level of immersion (where 1 was shallow and 5 very deep), the results showed a really different pattern than in case of the control group. 25% chose 2, 33.3% 3, 25% 4 and just 16.6% 5 (see Figure 3b).

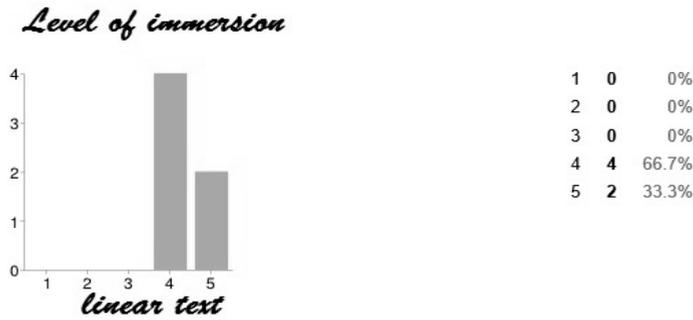


Figure 3a

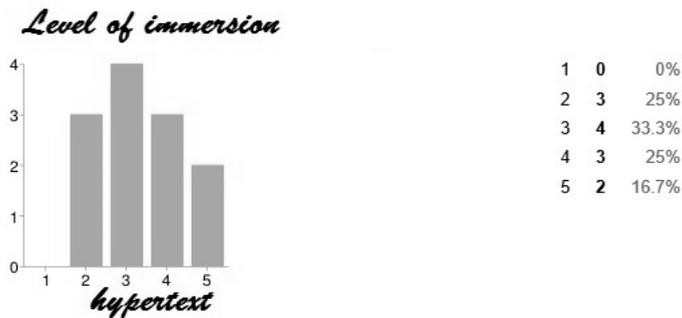


Figure 3b

It would obviously be irresponsible to generalize on the basis of these findings, as the study was not representative, but some conclusions can be made. Hypertext is not an appropriate vessel for literary reading, at least in regard to traditional literature and storytelling. The level of immersion is also unambiguously shallower. We have to agree with previous findings (Miall and Dobson) that readers of hypertext failed to engage with the literary quality ends of the text, and some readers complained about paths not taken (even though there were not any). But clearly a new element is that the readers expected to find multimedia (image and/or video) at the arriving points of the links.

## CONCLUSION

The reader of non-hypertextual and non-interactive literature on the screen follows the strategy of reading from a book. In the case of hypertext, from now on it is not the author's but rather the reader's task to determine reading sequence. Clearly, traditional reading strategies don't really apply to reading hypertexts. Hypertext readers navigate through ergodic text and that is why they constantly have to make decisions about which link to click and path to follow, which obstructs immersion.

As we pointed out in the introduction, even though nowadays computers are strongly represented (one may say embedded) in visual art, and this cooperation has changed the canon of art history, in the field of literature and text, we cannot state the same. There is a new canon on the rise. There are two literatures.

## NOTES

- <sup>1</sup> In Hungary, for example, since electronic literature was born, none of the major works on the history of literature have devoted even a chapter to the topic, and most of them have not mentioned hypertext at all. One might argue – correctly – that there are several conferences on new media and literature and e-poetry festivals every year all over the world. But the number of these activities, compared to conferences on “traditional” literature, is insignificant.
- <sup>2</sup> Pervasive and ubiquitous computing (PUC) is the growing trend toward embedding computers in everyday life. The words “pervasive” and “ubiquitous” mean “existing everywhere”. PUC devices are fully connected and constantly online. Today's mobile communication devices have changed people's lifestyles and created new subcultures (Choi et al 2013).
- <sup>3</sup> Media convergence: phenomenon involving the interconnection of information and communications technologies, computer networks, and media content. The term brings together the “three C-s”: computing, communication and content. There are five major elements of media convergence, including the technological and the textual (Britannica 2015).
- <sup>4</sup> <http://anthology.elmcip.net/index.html>
- <sup>5</sup> <http://anthology.elmcip.net/works/ba-tale.html>
- <sup>6</sup> <http://anthology.elmcip.net/works/valjarna.html>
- <sup>7</sup> <http://lossofgrasp.com/>
- <sup>8</sup> <http://www.interment.de/golem/>
- <sup>9</sup> <http://www.interment.de/golem/>
- <sup>10</sup> The evolution of computer screen resolution since hypertext has appeared:  
1987 VGA 640x480 pixels 16 colours  
1990 SVGA 800x600 pixels 256 colours  
1992 XGA 1024x768 pixels 65000 colours  
1995 SXGA 1280x1024 pixels 16 million colours  
2005 HD 1920x1080 pixels 4 billion colours  
2015 ULTRA HD (4K) 3840x2160 pixels 4 billion colours
- <sup>11</sup> All the participants in study were students of Kodolányi János University of Applied Sciences, Budapest, majoring in Communications and Media.

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## Reading from and writing on screens: A theory of two literatures

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Reading from screens. Hypertext. Immersion. Interactivity. Reader/writer. Two Literatures. Storytelling.

In this paper we look at the subject of reading from and writing on screens, connected to the theory of two literatures. While reviewing the contemporary internationally wide-spanning and well received works on the history of literature, questions arise: why is the discussion on electronic literature not strongly represented yet, and why is the issue of reading from the screen only mentioned cursorily? In our opinion, the answer is to be found in the fact that there are two literatures currently in existence. We set out to prove this theory.

In order to specify the theory of two literatures, in this article we (1) briefly cover the two tsunamis of hypertext reception and (2) deal with the notion of hypertext. To follow, (3) we bring typical examples of hypertext literature, all in order to better approach the issue of (4) reading from and (5) writing on screens. Then we take a brief look (6) at the theory of the iconic turn, in order to show how it can be applied to describe new media literature. The theoretical section is closed with (7) the introduction of a new, reader/writer function and attitude. Finally, (8) we present findings of a study conducted on reading from a screen, comparing the results to a previous survey. The article ends (9) with our conclusion.

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