INTRODUCTION

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Abstract
This thesis, *Stories on Screen*, looks at the ways in which the shift from print reading to screen reading is changing the narrative reading experience. Narratives have proven to be beneficial to us humans, especially to us readers, for several reasons: they help us develop our sense-making skills, linguistic skills, and some argue they even help us to learn to empathize with others. One of the questions that underlies *Stories on Screen* is whether reading on screen may impede the development of these skills. Since most research in the field of Screen versus Paper Reading (SvPR) has focused on comprehension and retention, *Stories on Screen* wishes to contribute by looking very specifically at narrative reading across media and/or substrates.

*Stories on Screen* investigates narrative reading by looking at all its aspects from a theoretical (Part One) and Empirical (Part Two) perspective. These aspects are the history of reading, the reader, reading culture, the narrative/literary experience, reading strategies and schemata, habituation, and how reading on paper versus on screen is and can be measured empirically.

In all these areas, the screen medium (as substrate, materiality and (multi)modality) has caused changes. The question is whether these are simply changes — good nor bad — or whether they have a disruptive impact on the narrative reading experience and its beneficial effects.

In theory, it appears to be very likely that the screen causes haptic and cognitive dissonance in different kinds of reading. Especially in narrative reading, since narrative reading requires more cognitive energy than other kinds of narrative consumption such as films and games.

However, recent empirical studies, including the experimental pilot in Part Two of *Stories on Screen*, suggest that there is no measurable disruption of the narrative reading experience in terms of absorption or enjoyment.

Nevertheless, it does appear that some text genres, reading schemata and reading strategies fit one medium better than the other. It is therefore suggested that we ought to diversify our reading activities and use the reading medium that is most effective for the chosen activity. With theory and the power of personal preference at their side, this means that most readers still choose the print book as their substrate for (long) narrative reading.

**Keywords**
- paper versus screen reading
- narrative reading experience
- reading
- medium
- substrate
- (multi)modality
- benefits of reading narratives

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INTRODUCTION

Always read something that will make you look good if you die in the middle of it.

(P.J. O’Rourke)

In a secular age, I suspect that reading fiction is one of the few remaining paths to transcendence, that elusive state in which the distance between the self and the universe shrinks. Reading fiction makes me lose all sense of self, but at the same time makes me feel most uniquely myself.

(Dovey 2015)

A book is the only place in which you can examine a fragile thought without breaking it.

(Edward P. Morgan)

I divide all readers into two classes; those who read to remember and those who read to forget.

(William Lyon Phelps)

I find television very educating. Every time somebody turns on the set, I go into the other room and read a book.

(Groucho Marx)
It was a bright cold day in April, and the clocks were striking thirteen. Winston Smith, his chin nuzzled into his breast in an effort to escape the vile wind, slipped quickly through the glass doors of Victory Mansions, though not quickly enough to prevent a swirl of gritty dust from entering along with him. The hallway smelt of boiled cabbage and old rag mats. At one end of it a coloured poster, too large for indoor display, had been tacked to the wall. It depicted simply an enormous face, more than a metre wide: the face of a man of about forty-five, with a heavy black moustache and ruggedly handsome features. Winston made for the stairs. It was no use trying the lift. Even at the best of times it was seldom working, and at present the electric current was cut off during daylight hours. It was part of the economy drive in preparation for Hate Week. The flat was seven flights up, and Winston, who was thirty-nine and had a varicose ulcer above his right ankle, went slowly, resting several times on the way. On each landing, opposite the lift-shaft, the poster with the enormous face gazed from the wall. It was one of those pictures which are so contrived that the eyes follow you about when you move. The caption beneath it ran, BIG BROTHER IS WATCHING.
Unreadable. And yet, this is what reading on a typical 21st-century screen looks like. More and more of our reading activities are moving to the screen: communication, information, business and entertainment reading. What does this migration to the screen mean for the way we read?

Reading — as a skill, as a concept, and its many connotations — has changed almost continuously from the moment(s) of its inception over 5000 years ago. Much has been written about the history of reading, its status and its impact. By far the most important invention in this history is of course the printing press with its tremendous impact on the availability of books and the spread of literacy. It could be ventured that the invention of the screen (and attached computer) is and will be the next big catalyst in the history of book reading. At first sight, it may appear as though reading on screen only means reading from a different substrate or surface. However, with the way in which the contemporary screen and the internet are interwoven, there is more at play. Reading on screen changes the reading surface, but also the book's materiality: what books feel like and smell like, and the aura that readers may attribute to them. If the book you read on your iPad screen is the exact same that the next iPad reader has, does the book even still have an aura? And when your iPad is connected to the internet, a world where almost everything you do is instantly shared, is the reading of a book still the same intimate and immersive experience that we know from the paper book?

Books are not the only narratives that have moved to the screen: films have attracted larger and larger audiences over the past century, and most contemporary games are (strongly) narrative-based. Today's narratives consumed for entertainment are often transmedial: a written book has a filmic remediation, a game, a TV-series, a radio show and a mobile application. Moreover, more and more of these remediations can be read, viewed and played on the exact same screen. This, too, raises many questions about book reading and the reader in the 21st century.

This thesis, Stories on Screen, aims to ask and answer some of these questions on a theoretical (Part One) and empirical (Part Two) level. While we will find that not that much research has been done on narrative reading on screen, every single reader has a preference for or against e-readers, and will have an opinion about reading on screen — which makes it a topic that is relevant for all of us. In this thesis, the differences between paper reading and screen reading — especially when we consider how the screen has changed reading — will be described as objectively as possible. Change in and of itself is not necessarily bad. That is why we will look at both the merits and the difficulties of changes in books, reading and readers that the screen causes or may cause. Most comparative research on screen versus paper has focused on comprehension and retention of information. While we will pay plenty of attention to this, our aim is to increase our understanding of narrative reading for entertainment.

Before we look at that, however, we must take a step back and ask why we should pay attention to this subject at all: why is it important to read (versus viewing or playing) narratives (versus other genres of text). We will begin by discussing the importance of stories for individual readers and communities. From there, we will ‘step up’ a level and discuss why this discussion is important: a defense of literary studies in the 21st century. Then, we will then look at why we need to re-evaluate what we know about reading and the narrative reading experience right now, early in the 21st century. The introduction will end with an overview of Stories on Screen.
Why should we read narratives?

This question should be answered in two parts. Firstly, let us consider the benefits of narrative, and secondly, let us look at why consuming narrative through the written word (as opposed to film, audiobooks and games) is the most effective in stimulating the benefits of narrative. Finally, we will look at what I would describe as the optimal form of the written narrative, the novel.

The benefits of narrative

Narratives have been important for humankind for centuries. The successful evolution of the early humans partly depended on the ability of humans to deal with an increasingly complex world. From an evolutionary perspective, Wilson (2006) argues that the arts (narrative among them) helped humans to make sense of the world and make decisions in a world where there is a continuous abundance of possibilities and choices (42). Narratives — historical, mythological, moral — helped (ancient) peoples to determine what were fruitful and less fruitful decisions to make. Narratives could and can thus have a direct effect — by saying to do or not do certain things — but on a higher level, engaging with narratives helps us to develop sense-making skills (Hayles 2005: 197). We narrativize everything that happens to us: we put events that occur into stories that fit the stories we tell about ourselves and others. By telling stories to ourselves and others about what happens to us, we can make these events comprehensible and we can see and build connections between events that are not immediately apparent (198). This is why we retell exciting or abnormal events so often: we normalize them by formulating them in familiar ways, until they fit our other narratives. This means that we often simplify what happens to us: we make it fit (predictable) plot structures that are familiar and comforting to us. In this way, stories help us make sense of the (often bewildering) world. These sense-making skills also extend to the way we view and understand others. By telling others stories about ourselves, we make ourselves and our actions clear to others. By listening to others’ stories — about themselves or about their versions of events — we come to understand them better. In this way, we build our Theory of Mind: our ability to understand and be able to empathize with how others feel and why they make particular decisions that are different from ours. Some scholars argue that we enjoy stories so much exactly because they allow us to practice our Theory of Mind (Mangen & Van der Weel 2015, Zunshine 2006, Philips 2011). We do not need to know people in a story personally in order to understand them or to sympathize with them. In fact, it does not even matter whether the people in a story exist or not: we still employ our ToM. Practicing our Theory of Mind is particularly appealing in fiction because the people and events are not real and it is thus ‘safe’ to imagine what it would be like in the mind of complex or morally corrupt characters. Nussbaum states that people who read narratives (but let us also consider people who watch, play and listen to narratives) put themselves in the shoes of “people they could not have known that intimate in any other way” (1995: 81). Think of extremes such as American Psycho — a novel narrated by a psycho killer — or Lolita — a novel narrated by a pedophile. Because we follow their story, we cannot help but understand (in part) how these people think and function — and it is safe because it is fictional. It is no surprise that fiction (as opposed to non-fiction) has been repeatedly linked to the ability to empathize (Mar & Oatley 2008, Koopman & Hakemulder 2015, Mason & Just 2009). While characters may not be real, they may feel real to us and, as Frijda’s laws of emotions (2007) clarify, our emotional response to narrative events is like our emotional response to real events. In other words: very actively practicing our Theory of Mind, even in fiction, simply makes us more skilled at understanding others.

Theory of Mind is a theoretical construct, however, and is likely not consciously experienced by most people. There are other, perhaps more deliberate reasons why we like stories. Davis (1992)
argues that the people who read (but let us again broaden it: people who consume many stories) are those people “to whom the simple fact of having just one life and having it at the mercy of its sheer contingency is somehow baffling” (12). For Kundera (1988), stories are not necessarily about whole lives but also about choices we make along the way. He thinks reading (again: consuming narratives) can be helpful for everyone:

We can never know what we want, because, living only one life, we can neither compare it with our previous lives nor perfect it in our lives to come. …
There is no means of testing which decision is better, because there is no basis for comparison. We live everything as it comes, without warning, like an actor going on cold. And what can life be worth if the first rehearsal for life is life itself? (8)

Narratives somehow substitute the possible other lives we could have lived, and the possible other choices we make or could have made. Stories show us what could happen when particular people make particular choices. Furthermore, Dal Cin et al. (2004) argue that stories may circumvent a person’s natural defenses: a story has the ability “to move those who are usually resistant to emotion” (Mar et al. 829). Stories thus help us to experience, feel and be more than our individual life. Stories can challenge our ideas about others and ourselves by showing alternative ways of thinking and unfamiliar events, but they can also support us with recognizable characters and relatable circumstances.

Reading narratives versus other types of narrative consumption

Hayles (2005) and Nussbaum (1995, 2001) have argued that book reading stimulates our imagination. While films may do so too, films leave very few interpretive gaps for a reader to fill: the viewer’s senses are entirely filled with visual and aural input and he or she is swept along with a story that is not paused or slowed down. While you can rewind a film to rewatch something, this is experienced as much more disruptive than rereading a passage in a book. Moreover, one of the most popular contemporary film genres is the action movie, which is full of very fast and rich action sequences. A film experience is thus a very complete one. Audiobooks of course do not have the visuals but they, too, determine the pace and are cumbersome to rewind. Moreover, the audiobook’s speaker(s) give their own interpretation of authors’ and characters’ voices and intonation. Finally, while games often give players more freedom in terms of speed and direction, the possible choices are predetermined and visuals and sound are also supplied.

When we read a book, it is up to us to imagine what a character and story world sound like and (often even) looks like. The building of a story world and atmosphere takes place entirely in our mind: no one shares that experience with us in the way that gaming, listening to audiobooks and watching films could be shared. A book thus forces our imagination to work much harder: it continuously appeals to our sense-making skills. In Part One of this thesis, I will discuss in more detail what it means for books that there are now so many narratives out there that are ‘cognitively easier’ to consume.

Among read narratives, literary scholars argue that literature is the most beneficial for reading. Literature — as opposed to most non-literary books — employ foregrounding techniques and defamiliarizing features (Koopman & Hakemulder 2015, Hakemulder 2000, Mar & Oatley 2008). Part One will also elaborate on this.
Finally, measurable benefits of reading narratives are of course that reading improves a reader’s vocabulary, more general language skills, and reading comprehension (Cipielewski & Stanovich 1992, Mol & Bus 2011, Stanovich 1993).

In defense of literary studies

It is clear then that reading narratives (literature or other) has a great deal of benefits. What about literary studies? Why should we (keep) look(ing) at how books are read, what kind of narratives there are, and endlessly reinterpret the same old books in new ways and new books in old ways? Why is literary studies relevant? Davis’s asks the same question and answers it as follows:

as an adult I confess that I don’t quite know where to look for back-up save in books, even while half-doubting them as fictive substitutes … I wonder if doubts about a mission are not a secret part of that very mission: I wonder if doubts about literature’s place in life aren’t part of literature’s very relation to life — interrogating everything including itself (13).

One of the most important components of literary studies is its criticism, its capacity for creating doubts even in our most fundamental assumptions. Literary scholars always look for (underlying) assumptions, patterns and concepts that are may not be immediately apparent on the surface of a narrative. While narratives help readers make a first step towards self-reflexivity and empathy, this step may be implicit and even unconscious to them. Literary studies helps to make that step explicit, and to reach more depth in self-reflexivity, empathy, and other components and effects of (mostly written) narratives. Critically engaging with narratives helps us to be more critical towards our personal narratives and our effortless narrativization. Are we actually sound in our judgment, argumentation and narrativization? While none of these things can be objective, it is very important to be aware of one’s own prejudices and normative ideas, and how they function to shape our ideas and actions. Literary studies has developed analytical methods and theories that help us to understand the narratives we read and hear, and our own ways of thinking about these narratives, other people’s narratives, and ourselves (in relation to others and (their) narratives). The 21st century needs us to be especially critical due the fast and highly accessible communication network of the internet. “Not everything you read on the internet is true” is a mild way of putting the caution that internet users should have with getting their facts from the internet.

This thesis considers the emergence of the screen to be a game changer for reading. What is the role of literary studies in this rapidly changing environment? I would give two answers to this that are addressed to different audiences.

Firstly, to a general audience, literary studies is important because we do not know whether the screen affects (positively or negatively) the power of narrative. The screen has given rise to new forms of narratives and remediations of old narratives. Are these as effective, as powerful, as its printed, material cousins? What actually happens with a narrative when it is translated to the screen? Much more is involved than a mere change in substrate; it really is a translation as the screen modality is very different from the print book. A great amount of remediation is currently happening without taking this into account, however. We do not yet know if narrative’s power of ToM and self-reflection are as effective when the medium (here: substrate and modality) changes. Nevertheless, things such as iPad classes and the use of e-readers are spreading like wildfire. Very fundamentally, reading might help us to learn to understand others.
Reading stories has been a solid part of school curricula in developed countries. Would it be possible that the screen allows for less ToM, for less empathy with characters? This could be detrimental to the development of young children’s social skills and understanding of others, which in turn — if this is true, and the screen keeps spreading at the rate it does — could desocialize society itself. This may sound like a very far-fetched scenario — but there are scholars out there, such as Pinker (2011) who claims that the increase and availability of narratives might have increased our empathic abilities, and could thereby have caused a decline in violence.

Farfetched ideas or not, we simply do not know yet whether the screen is as capable as paper to engage our ToM, and to train our vocabulary and language comprehension. Despite this lack of knowledge, nearly all reading activities (including book reading) are moved to different kinds of screens. Literary studies (possibly in conjunction with other disciplines) is responsible for finding this out.

Not all literary scholars are interested in this, however. Hayles (2002) describes the repeated experience of being faced with scholars who do not want to adapt their ideas about literature and text to contemporary digital and medial developments (45). They are afraid that their skills and knowledge will become obsolete. However, they cannot prevent reading and texts’ inevitable migration to the screen. Leaving the discussion of whether the material book will disappear aside for now, we cannot ignore the increasing importance of the screen and the digital in readers’ narrative (and other reading) diets. The medium of reading and connotations that come with that new medium are vastly different from the paper book. If literary studies wishes to maintain its critical position, it must be on top of the monumental shifts in fundamental concepts of literary studies that are caused by digitization. Literary studies itself must shift and move along with contemporary developments as well. Literary studies can play a key role in issues that are really relevant today — regardless of whether individual scholars critique the screen and the effects it may have on reading. Since the love of the literary or narrative reading experience is at the core of what has drawn most literary scholars to the field, it is essential that we ensure that this experience can also be shared by future generations, which will invariably be screen generations.

Why now?

While the book might never disappear entirely, it would be folly to pretend that the screen will not take over much of the material book’s space. The digitization of texts — narrative texts and literature among them — is a massive ongoing effort, and not to everyone’s delight. Material book lovers bewail the loss of materiality in the engagement with the virtual book, while others praise the accessibility and searchability of the digital text. Amidst these opposing and changing preferences and ideas about the screen and texts, it is essential to understand how reading and reading culture is changing. This is not something we should leave until after the screen has developed even more and reading culture has changed even more. If we wait, there is no possibility to act on the basis of our understanding. We will not be able to make informed decisions about teaching children how to read on paper versus on screen, about any kind of education that involves any kind of reading, and about which media fit best our own different kinds of reading, from correction to comprehension to entertainment. Since we do not know much about all of these things yet, Wolf was right to argue that “we move forward perhaps with too little reflection” (Wolf in Jabr 2013). It would not only be inefficient but also irresponsible to allow our reading culture to become a screen culture without knowing what implications it may have. If we as literary scholars wish to have some control over reading culture, if in the first place only by understanding the current changes, we must start investigating now.

Right at this moment, the 2010s, the consumption of digital texts has slowed down and lags behind the consumption of other digital media, such as music and film. An excellent moment
to jump in. Why, first of all, is it slowing down? Van der Weel (2015) provides two possible explanations for this: firstly, books have a long tradition of being encoded or recorded in a particular medium (as opposed to music) which makes a shift to the screen more laborious. Secondly, since reading texts is already more cognitively challenging than e.g. watching films, reading a text on screen would add too much on top of that already existing cognitive load. The idea that the screen requires more cognitive energy has been confirmed by a number of researchers (e.g. Lin 2009, Mangen et al. 2013, Kirschner & Karpinski 2010). If a reader ‘takes the trouble’ to read a book, he or she then prefers to at least peruse a material, familiar, clear medium that requires somewhat less effort than reading on screen.

Despite the fact that the consumption is slowing down, a huge chunk of our reading and texts has already moved to the screen. Research on e.g. cognitive load, but also on multitasking (Ophir, Nass & Wagner 2009) and navigation (Cataldo & Oakhill 2000, Mangen & Kuiken 2015), shows that the screen might not be the best for (particular types of) reading. How, then, did we end up reading so much on screen?

Van der Weel (2015) emphasizes that technology is predisposed to do certain things, and that many of the things we see technology do today are side effects rather than originally intended. Indeed, early computers were used as testing equipment for engineers and were intended to do calculations, and eventually to store data (computerhistory.org). Turing’s idea of the Universal Machine only came after World War II. His conception of the Universal Machine was to make the computer a machine that could do and be all kinds of different machines based on its programming rather than on its hardware. Early versions of the internet and e-mail were intended as small networks to send data between computers to make work for researchers easier (internetsociety.org). The consumer use of computers in all their different shapes, and of the internet, was not the initial intention. Computers, the internet, and screens were not intentionally and still not primarily intended for reading, especially not book reading. They are multifunctional. The separation between different types of hardware has only started happening again in the last 10 to 20 years. The first e-reader, a computer with a screen that has been designed exactly for reading, was only released in 1998 (Softbook). The first eInk screen appeared in 2004 (Librié by Sony). This is all to illustrate that the screen as a reading substrate, and computer as reading modality, is extremely new and very innovative, in the sense that it continuously grows and renews. And as we see different ‘hardwares’ which are mostly dictated by screen size and portability — smartphone versus tablet versus laptop versus desktop — the software across these platforms becomes increasingly unified. Both Apple and Windows strive to make their operating systems look the same on different screens; which will likely also affect how we will be reading across screens.

With the rise of the digital text and the development of designated screens has come the e-book: a long text that is intended to be read on screen. Currently, most e-books are simply remediations of the print text (i.e. the e-book page looks the same as the print page). However, some authors have started to use screen-unique capabilities that make the e-book or e-text clearly different from its material copy, e.g. through animation or sound. Jim Collins has written extensively on e-book culture and how it has both socialized and individualized reading. By changing the reading medium (substrate and modality), our reading culture has changed: it has changed how we engage with reading, and with other readers.

Researching 21st-century reading

So much for the (brief) state of affairs with where reading stands in the early 21st century when we look at it from a distance. Let us take a closer look at the state of empirical research that has
already been done in this field to try and understand what happens when we read on screen versus on paper. Let me begin by establishing the field’s major difficulty, which is that all empirical findings age very rapidly because screens and the nature of our computer use are changing so incredibly fast, too. It is tricky to stay on top of current technological and sociological developments.

Another issue with the field, and this is one that Stories on Screen will attempt to address specifically, is the lack of research on narrative reading, entertainment reading, and the narrative experience on screen. Let me first illustrate why this is a pressing, current issue, and then I will discuss in more detail what the issue is.

Currently, almost all research on screen versus paper reading (henceforth SvPR) focuses on two kinds of reading: reading for comprehension, and reading for retention. Overall, the focus has been on educational reading. However, this does not constitute all of our reading on screen and/or paper: we also read to correct texts, for instance, and we read for fun. The texts we read may be longer or shorter, and may be of extremely different genres. Current research does not address these other reading purposes, or different kinds of textual genres. Results from current research thus does not address screen reading as a whole but it does determine what we think we know about screen reading. What this thesis wishes to point out is that we cannot understand screen reading, or screen-based reading culture, only from research on comprehension and retention of expository and informational texts. Consequently, we cannot make or even recommend effective changes to optimize SvPR. Optimizing SvPR would involve distinguishing what kind of reading would work best on which substrate, and how the medium as a whole should function to support that kind of reading.

Within that knowledge gap of different kinds of screen reading, this thesis will address the largest gap in the lack of knowledge on screen reading culture, namely the gap of the narrative reading experience on screen. Anno 2015, more and more people consume their books on their laptops, tablets and e-readers. I would argue that research on reading for correction on screen is less urgent because people still tend to print (complex) texts that need close attention, either for reading or editing (Liu 2005). Let me illustrate why contemporary screen reading is different from the types of reading that (empirical) research on screen reading has looked at in the past 30 years.

Firstly, most previous research has focused on expository and informative texts. These texts are intended to explain and discuss real-world issues, from very practical issues to philosophical ones. During and after reading, a reader should have a better understanding about the world or society, and how they function. The content and style of narrative texts are very different.

Secondly, narrative texts provide a reader with an experience. An essential part of this experience is that a reader is transported to the story world: that he or she forgets about the world around him or her. While the most popular narrative texts are of a fictional nature (Howey 2014, Flowers 2013), they provide real insights into how human psychology can work. Reading a narrative text is thus done with a different intention, and is accompanied by a different experience, than reading an expository text.

These two things mean that research on the SvPR research on the narrative reading experience necessarily looks different from previous research on SvPR. Previous research has mostly used ‘objective’ data: correct or incorrect answers to exam-like questions about texts. Questions about participants’ experience with reading on screen are usually limited to their preference to read on screen or not. However, some of these kinds of questions do give us ideas about screen reading that may be generalizable across different kinds of reading. For instance, it
appears that, in terms of personal preference, people prefer paper over screen when they have to read a long or difficult text (Wu & Chen 2011, Nicholas & Lewis 2008, Leyva 2003). This makes sense if we consider what research has found on the fatigue and eyestrain that screens with backlight cause (Mangen 2011, Wästlund 2007). It is not surprising that intensively reading on screens may require more cognitive energy, which is extra laborious if someone already needs to scrutinize a text. However, narrative reading is seen as a means of relaxing. It can be a very intense kind of reading too, but the intensity is in the absorption and experientiality of the reading, not in being critical of the text.

Furthermore, previous experiments were virtually all done in an experiment-like environment (a classroom, with school computers). This means that they did not focus on entertainment reading in a reader’s natural reading environment: at home, on the subway, on holiday. These are very different spaces where texts are read for very different purposes. Therefore, readers’ experience of and attitude towards this kind of reading and the kinds of narrative texts that fit in these situations may be very different.

As early as 1992, Dillon has suggested that there may not be one single solution — e.g. one type of screen — to accommodate all different types of reading:

“if our desire is to create systems that improve on paper rather than just matching it in performance and satisfaction terms (as it should be) then much more work and a more realistic conceptualisation of human reading is required” (32) and “reading … for entertainment [is] less likely to require readers to concern themselves with speed. These are the sort of tasks people will regularly wish to perform and it is important to know how electronic text can be designed to support them” (31).

Over 20 years ago, Dillon already suggested to design solutions — e.g. electronic texts — to fit different reading tasks. Nevertheless, we are not much closer to proposing a particular type of screen, or mark-up, or typography, or (electronic) text per specific reading task. Nevertheless, it is likely that different reading (tasks) will continue to migrate (partly) to the screen. Think of the extent to which e-mails have replaced letters, and how paper newspapers are disappearing as newspaper websites are improving. After all, paper itself also replaced a very strong oral culture. It took the paper book a long time to reach its optimal state, which is arguably the printed book we know today.

The screen has only been around since the 1980’s and has developed incredibly fast in the past 30 years. But after only 30 years, we are still very early in the age of digitization. The migration of the book to screen has slowed down but the popularity of e-readers and tablets is soaring. Right now is the best time for us — literary researchers and readers — to act in order to achieve a better understanding of different kinds of human reading, so that we can optimize reading media and our understanding of how to use those media and substrates in the best possible way.

**Overview of this thesis**

*Stories on Screen* has been divided into two parts: one theoretical and one empirical. Part One functions as an elaborate background to the (practical) issues that readers, reading and reading culture are faced with in the transition to the screen. It begins with a definition of narrative and briefly historicizes the practice of reading and the development of books. It then discusses the reader, starting with a justification of why Part One will refer to a reader rather than the reader.
Who is a reader in the context of this thesis, and can we even discuss a reader as a unified or single person, since narrative reading experiences are so personal, intimate — and therefore diverse. A discussion about the normative ideas readers may have about reading on screen will follow. We will then move to reading culture as a broader concept, encompassing readers’ behaviors and habits. The psychology, sociology, technology and biology of reading will be discussed as the pillars of what makes a reading culture.

From readers and their culture, we move onwards to discuss the narrative and literary reading experience, and how they may differ. We will consider what experiential states may be part of the narrative reading experience, in particular which different narrative emotions there may be. I will also already look forward to the experimental pilot by paying special attention to measurable experiential states.

From that point, we broaden our scope as we move from the specifics of the reading experience to reading strategies and habituation. We will look at what kind of reading schemata people may have and use for different kinds of texts and contexts, and how different types of texts may trigger these. Special attention will be paid to the habituated reading experience, as this thesis will argue that habituation plays a key role in the shaping of our reading (experience) in print and on screen. We will then look at medium predisposition (what is a medium supposed to do or enable?) and at human predispositions towards reading media. We will look at the interaction between human and text, in particular at the embodied and material relationship between the two, and how the screen might change that relationship. Part One will conclude with some thoughts on medium specificity and remediation.

Part Two looks at book reading on screen from a more practical point of view. It begins with a brief overview of empirical research that has been done in the field of on screen reading versus on paper reading (which I have called Screen versus Paper Reading: SvPR). We will look at what researchers in the field have found so far, and what some of the difficulties in empirical SvPR studies may be. From this research, we will filter three types of variables that are relevant to empirical SvPR research: screen variables, reader variables, and text variables.

The rest of Part Two is dedicated to the description and discussion of an experimental pilot to measure the SvPR experience. The experimental pilot is designed to measure the narrative reading experience with the use of the Story World Absorption Scale developed by Kuijpers et al. (2014). One group read a short story on paper, and one group read the same story on screen. The pilot is introduced with two hypotheses: firstly, that the screen medium would lower participants’ scores on the Story World Absorption Scale; and secondly, that the screen medium would increase distraction and (perhaps as a consequence) lower attention. The experiment’s methodology is then discussed: its aims, participants, design materials, measures and procedure. Since this experiment is so small, not all variables that are desirable for such research could be measured. It is justified in detail which variables were and were not measured and why. A discussion of the result follows, wherein we will find that many of the assumptions we might have developed on the basis of the theoretical Part One are not confirmed. This is likely due to the selection of participants (students of English literature) and their reading experience and skills. Part Two ends by considering the difficulties of this thesis’ experimental pilot.

In the conclusion, we will look at how Part One and Two have complemented and/or contradicted each other by summing up what the key concepts and influencers are that shape the narrative reading experience on screen, both from a theoretical and empirical perspective. With these key ideas in hand, we take a step back to see how they can inform our view of the more general reading experience on screen. What is interesting especially is of course whether very different
things apply to screen reading than to print reading, and whether findings that apply to comprehension and retention reading are also relevant for entertainment reading. We will end by looking forward, to the future of screen reading. What can we predict about the future of entertainment narrative and screen reading and — more importantly — what research should still be done so that we know how to shape the future of reading in the best possible way.
PART ONE. THEORETICAL

I spent my life folded between the pages of books. In the absence of human relationships I formed bonds with paper characters. I lived love and loss through stories threaded in history; I experienced adolescence by association. My world is one interwoven web of words, stringing limb to limb, bone to sinew, thoughts and images all together. I am a being comprised of letters, a character created by sentences, a figment of imagination formed through fiction.

(Tahereh Mafi)

I spend the week on the couch – it’s too distracting to read at the beach – with two fat novels. I come home refreshed, not by sun and sand, but by fiction. I am lighter because, for a week, I am freed from the burden of lugging myself around.

(Sollish 2014)

Reading is escape, and the opposite of escape; it’s a way to make contact with reality after a day of making things up, and it’s a way of making contact with someone else’s imagination after a day that’s all too real.

(Nora Ephron)

Books are the quietest and most constant of friends; they are the most accessible and wisest of counselors, and the most patient of teachers.

(Charles William Eliot)
1. Defining Narrative

In the first couple of chapters of Part One, we will dig into what makes the narrative reading experience: its history, its nature, the active parties in that experience. We begin by defining narrative.

It is important to note that my definitions for narrative and literature are formulated in order to be used within the scope of this thesis. There is much disagreement between different (academic) fields — and even within the field of narratology — about these core terms and it would not be helpful to engage too deeply with these. I choose to run along with Phelan and Rabinowitz’s idea that there can be no single satisfying definition since each definition is formulated in order to highlight particular issues that are of interest to the author(s) (5).

My interest in these terms, narrative and literature, lies in the experience of engaging with them in written form through a particular medium. In this case, I am interested in written narratives, not in the narratives of film, games or any kind of audiobook or podcast. A (literary) narrative can be conveyed in those and many more shapes but they are not directly relevant for this thesis. The following is then what we are interested in for now:

- a written account of a true, fictionalized or fictional sequence of events of which the focus may be on characters, action and/or (story) world

This thesis focuses on narratives that are read for entertainment purposes.¹ The majority of books that is read for fun is the fictional novel (Howey 2014, Flowers 2013). Therefore, when discussing narratives, I primarily mean to discuss fictional novels and fictional short stories — and not, for instance, poetry or comic books. Poetry and comic books are entertaining and they (may) have narratives but they are such specific forms that what is discussed in this thesis may not necessarily apply to them.

What distinguishes a narrative from a literary narrative cannot be minutely determined in the sense that every narrative would allow us to unequivocally say: this is literature, and this is not. Ryan proposes that narrativity is not a boolean but a scalar feature of an artifact, written or other (26-7). The same can be said of literariness. Rather than defining literature, you would then define literary features, such as the use of metaphors or other stylistic embellishments, and narrative complexities such as stream-of-consciousness.

While literature is read by plenty of readers for entertainment purposes, it is also the study object of the academic field of literary studies. As an object of study, literary scholars and students read literature in a different way and for different purposes than your average reader: there is a long tradition of close reading and more recently scholars have also started to employ computational reading methods. Literature and literary studies are often not exclusively concerned with a narrative but very much with the aesthetics of a narrative, i.e. the literary features. I will take some more time discussing the possible differences between a literary and narrative reading experience under The Narrative and/or Literary Experience. However, this thesis’ primary concern is with the narrative reading experience, which may be triggered by narratives and literary narratives alike. What I do not wish to focus on is the aesthetic reading experience. This is the reason why I will continue this thesis by discussing narratives, not specifically literature.

In any case, when I discuss narratives, books or stories in this thesis, you may assume that I mean written narratives in the form of (usually fictional) novels and short stories.

¹ Narratives themselves do not necessarily determine how they will be read but I wish to exclude narratives that have a purely educational or informative purpose.
2. Brief Historization of Reading and Books in the Western World

In order to better understand the current changes in reading and reading culture, it is necessary to have some idea of the historical context wherein these changes take place. The following Brief Historization gives some idea of why we started writing, how we read, and who read. It discusses the power of the book, and the loss of the book-object's value or aura. It also discusses how screen culture may fit into the line of developments in books and reading. The following history, as well as most of this thesis, focuses on the Western World (Europe and North-America).

Manguel (1996) and Burke (2011) argue that the writing system started to develop when humans started forming concepts that were (very) complex and too difficult to remember by heart (Burke 2, Manguel 22). Fischer suggests that early civilizations, apart from language, used gestures to communicate (15-6). Some of the early written systems were based on such gestures, or had other real-world references: they were pictorial writing systems. The Western A to Z, however, is phonetic: the letters do not mean anything, they merely represent a sound. It is no surprise that, in the West, reading was done out loud until well into the tenth century (Manguel 43). Manguel draws on Plutarch to illustrate this, as Plutarch claims that “Alexander the Great read a letter from his mother in silence in the fourth century BC, to the bewilderment of his soldiers” (Manguel 43).

For many centuries before and after Christ, reading was something that was done in public, i.e. as part of the public sphere. Due to high illiteracy, actual reading was still limited to a learned elite. Reading out loud, however, was not initially an invitation for others to listen — it was simply how reading was done. Manguel imagines the Greek and Roman libraries to have resounded with the mumbling of scholars working through scrolls (44). These scholars naturally did not read aloud in order for those around them to hear.

While reading aloud continued into the 19th century, the advance of silent reading changed the connotation of reading out loud. Reading aloud did start to imply “shared reading, deliberate or not” (50). Reading silently thus meant an individualized, privatized kind of reading — and reading aloud meant that the individual’s particular kind of reading, his or her interpretation, would be heard by others.

What role does the shape of the book play in this? Manguel contends that the parchment codex overtook the Classic scroll because of its portability and transportability, and its ease of navigation (126). In comparison to the scroll (and, what Vandendorpe (2015) compares it to, scrolling through digital text (9)) the parchment codex made it easier to find a particular section of a text. This trend of making reading easier can be seen in the development of the paper codex and, of course, very importantly, printing. With the change in the shape of the book came a change in reading. This is a process that goes back and forth between a reader and the codex and later book, of course. Fischer argues that the active reader who has agency over his or her own reading choices was born in the 15th century already (Fischer 205) but we only really see an enormous growth of active, autonomous readers after the advent of printing. Books relatively quickly became a mass commodity, expanding the amount and the amount of choice that readers had: “Quantity over quality became the ethos that drove the print revolution, always a capitalistic venture. One immediate consequence was the reduction of book size” (210).
Writing was likely introduced for the purpose of storing and processing complex ideas. Printing allowed this too, but on a much larger scale. Complex but also ideologically challenging ideas were not only stored but shared and spread rapidly through print. The increasingly small size of books, in combination with the earlier mentioned silencing of reading, meant that reading was made all the more private. As Manguel argues, “A book that can be read privately … is no longer subject to immediate clarification or guidance, condemnation or censorship by a listener” (51). For authorities (primarily the 16th and 17th-century Catholic Church) this was disastrous. For instance, it is well-established that Protestant ideas spread so quickly and strongly due to the (then fairly recent) invention of the printing press. The privatization of reading (in shape and culture) roused authorities to censor certain books. Reading became a potentially dangerous activity: a reader could read the wrong thing or he or she could interpret the right thing the wrong way.

Consequently, books and reading simultaneously became both more and less vital. Books as individual objects lost much of their previous sanctity: there were too many copies and they were literally worth less. This also meant that the intimate relationship between book and reader changed: the book was not handmade, or specifically crafted for one particular person, there were plenty of other copies like it. Fischer calls this the “impersonal challenge of the print book” (218).

At the same time, however, the content of books changed many readers’ views and sentiments on plenty of important and less important topics, as it still does today. It could be argued then that in the transition from handwritten and illuminated manuscript to print book, the book-object has come to matter less. While books could still be made very intimate, they became inherently less respected and more replaceable than the manuscript. The power of books as a modality become much bigger, however.

With the number and availability of different books growing, Fischer notes that late 17th century Western readers began prioritizing extensive over intensive reading (255). With this shift, the “very concept of reading’s primary function altered: from focus to access … Ever since, reading has been viewed not as a place, but as a road” (255, emphasis mine). Fischer argues that further developments of reading reflect this extensive-over-intensive reading shift. This becomes especially apparent in the 19th and 20th century as newspapers changed to accommodate to the new reading style that was focused on consuming much on different topics (i.e. extensive over intensive). Whereas newspaper reading used to be a leisure activity, newspapers were now perused only briefly, and only for the topics of interest; and much of the text was shortened and/or replaced by photographs (296). Extensive over intensive thus translated to a shift in modality: less text, more images. With the development of other mass-media such as radio and television, the same thing happened, and it mostly involves the new media conquering terrain of text and the book.

Before the advent of the radio, everybody read. Of course, this only happened when literacy had become widespread, towards the end of the 19th and the early 20th century (Kaestle 1985: 44). Before then, the ability to read, and to read for leisure, was exclusive to higher classes. Once reading spread, the high versus low arts, popular versus elite literature, strengthened (45). The (cultural) elite might respond in two ways to the popularization of literature and/or low literature, and the novel. Firstly, it could argue the negative effect of reading this low-quality mass culture product (in the same way that 16th-century Dante’s Paolo and Francesca were stimulated by reading a romantic story together to cheat on Francesca’s husband). Secondly, the elite could
consider it a threat to high literature (46). Earlier, the same thought was shared with religious versus secular texts.

Again, then, the people’s mass power to access what is in texts — by reading or being read to — and to have autonomous choice over what they access, worried ‘higher’ instances (previously the Church, now the (cultural) elite). We thus see a cyclical innovation in the development of reading, with similar responses from different (reading) groups.

Where in this cycle are we now? There is an increase of reports that lament the loss of reading, or the end of the book. These reports often blame the internet and digital distractions (Alter 2014, Pires 2009, McGuire 2015). Lamenting the end of a particular kind of reading is not new, however: every cycle has it. When extensive replaced intensive reading in the 17th century, this shift was bemoaned as well (Fischer 2003: 256). That is not to say that reading is not fundamentally changing currently. It is, and there may be negative aspects to it, but a change in reading is not new, and may not be all bad. After all, the Western school system is entirely built on extensive reading, even literary studies (255).

The computer and the screen have made reading even more extensive: the screen can display all the books that the computer can gain access to. Not only books, however: all media. And even though the personal computer could be argued to be the most multimedial device possible, it brought back much from oral culture into written culture: “in many situations the written and read word is even replacing the spoken word: rather than phoning, visiting or gathering one now uses email, chatrooms and the Internet instead” (Fischer 297).

I think it becomes clear at this point why a historical context of reading is so important when we discuss paper reading versus screen reading. Even though Fischer discusses the modern transitions in reading as something we “regard anxiously” (310), developments in reading (among which the idea that reading is losing depth) have been going on for centuries. Pope bemoaned that extensive reading took over from intensive reading back in the 17th century already (256). In the same way that the transition from scroll to codex, and from codex to print book, changed much about reading (not just the process itself but many of its connotations as well), so is the transition from print book to screen. Rather than complain about the change, it is much more useful to see what is actually happening to reading and readers.
3. A Reader

In A Reader, we look at the identity and characteristics of readers, especially in relation to the process of reading. Since our aim is to understand SvPR, it is of course important to understand who is doing the reading and how. The reader changes the reading process due to his or her previous experience with books, his or her preferences — and even current mood!

Who is the reader?

To begin with: there is no the reader. In literary studies, attention for readers as part of the reading process is a relatively new development. Throughout centuries of analyzing texts, scholars focused primarily on the texts themselves and eventually on the author. Even in modern reader response theory and reception theory, however, readers are still discussed as ‘the reader’ — as if there is one uniform reader. While there are reading communities (c.f. Fish’s interpretive communities), I would rather argue that there is no such thing as the reader. The fact that readers may share things such as their reading diet or their personal histories or personalities does not mean that they are the same readers, or that their reading experience is the same. It is exactly the individual, personal, intimate nature of the reading experience that readers like.

I prefer to pay respect to readers’ individual habits and experiences by using the phrase ‘a reader’ in Part One of this thesis. (Part Two involves actual readers.) ‘A reader’ may be a kind of reader that you — a reader of my thesis — may or may not identify with, just like you may or may not identify with every other reader. When I discuss a reader, I refer to her as female (but a reader might as well have been male) to emphasize that she is just a reader, and not (even a stand-in) for every reader.

Within the context of this thesis, a reader is someone who reads narratives, among which novels. She may be reading for different reasons but we are interested in her especially for the reading experiences she has when she is reading for fun. She may be part of a community of readers — perhaps she is even part of a book club. Or maybe she only has time to read on the way to work, early in the morning on her train commute. A reader is familiar with the immersive experience a book may give and it is one of the reasons she reads — whether it is to forget her own complicated life for a moment, or simply to be swept away by the exciting adventures or heartbreaking stories of her favorite characters. She may think reading has a real, profound impact on her life. Then again maybe she does not even think about reading. Reading is just something she does. Because what else is she going to do while she’s sunbathing next to the pool on holiday?

A reader and reading

I will discuss the narrative reading experience in more detail below but first I would like to look at the role of a reader in reading. To what extent does a reader influence the way she reads? Is it a conscious or unconscious process, or both? What does she ‘do to’ the narrative she reads in terms of interpretation, and what does it do to her? According to Wilson (1956), reading is an interactive process which demands of a reader that she “give herself over to the experiential ‘set’ of the author”. The giving over requires “at least a minimal sacrifice of self-identity, because the reader’s autonomy, if fully maintained, would block out the author’s vision” (48). Wilson thus argues that a reader has to put aside herself to be open to the way the author has envisioned the text.
However, the author's vision of the text is not the only possible one. In fact, it would be stronger to argue that a reader strongly influences how she reads the text — and the text may also influence or change her. According to Iser's reception theory (1978), narratives are full of gaps which a reader (automatically) fills in. A narrative does not describe absolutely everything that happens: a reader has to build connections between the pieces of information that are given in the narrative. The way in which she fills these gaps is personal; it is determined by her previous experience and knowledge of the narrative, of narratives like it and her personal experiences. Iser's idea of gaps illustrates very well why the narrative experience of a written narrative is so different from experiencing other modalities: writing leaves by far the most gaps to fill in, and so a reader has most 'power' in interpreting the work, even if she is not fully aware of this.

The communication between a reader and a book is not one-sided. In the same way that a reader influences what she reads, what she reads may also influence her. Wilson's psychoanalytical "Literary Experience and Personality" (1956) shows correlations between the personality development of a number of readers and the works of literature and the fictional characters they were most inspired by throughout their lives (49-50). Of course, in a less literal way, what we read helps us shape our opinion about the kind of people we would like to meet, and also the kind of person we would like to be. Furthermore, as has been mentioned in the Introduction: what we read may influence our decisions because it shows the possible outcomes of characters' wise and unwise choices.

In the narrative experience, several forces thus converge with a reader as their locus. Firstly, reading allows a reader to transcend the self and experience emotions with the knowledge that "the other is the source of one's own emotion" (Vignemont and Singer 2006, emphasis mine). As Mar et al. (2011) put it, a reader temporarily suspends her “own goals, plans and actions” (Mar et al. 824) in favor of those of the characters or the author’s vision. Thereby, she also (as a form of escapism) suspends her personal worries and the daily drag of life. Escapism is one of a reader’s key motivations to read. Secondly, a reader is personally affected by the characters’ emotions and adventures — and her reading diet may influence her very personality and life choices. Not ‘you are what you eat’ but ‘you are what you read’.

Most of the two-way influence — the influence of the book on a reader and of a reader on the story — is not something a reader is necessarily aware of. While a reader has some control over what she reads, she does not control how the story influences her or how she reads it. The very act of reading is something avid readers may feel they do not even have control over. "Human thinks he/she controls the reading process (can put the book down at will) but books draw one in and, through writing elements such as suspense, maintain interest” (Sussman 6). When such mechanisms are in place, we cannot help but keep reading.

Altogether, the process of reading appears paradoxical: reading allows and forces a reader to let go of the self, but the self is necessary to fill the gaps in the story, and the self may in turn also be (temporarily) influenced by the story or its characters. Reading may even take a reader to places she does not necessarily want to go: she might keep reading a chapter she finds too scary, or she might keep reading when she knows she will be late for an appointment.

Finally, it is important to realize that a reader and her reading are in a continuously dynamic process. There is no static reader or reading: she changes and so her reading changes; her reading changes and so she changes. Burke (2011) argues that even extremely localized elements such as a reader's mood have a profound impact on the reading (2). And so, one reading will never be the same as the next, not even when the book is the same.
4. Reading Culture

In Reading Culture we will discuss the current state of affairs in the “world of reading” to show how the screen (and the opposition between paper and screen) is changing (and will keep changing). Reading Culture consists of a number of aspects. In the (1) Psychology of Reading, it will become apparent that narrative reading has a positive influence on readers for different reasons. This raises questions of whether textual narratives on screen would change the psychology of reading. (2) Sociology of Reading discusses the human part of reading culture: human’s (meta)cognitive ideas about reading, and texts and media as carriers of ideology. (3) Technology of Reading focuses on the contemporary materiality of reading: what hardware and software is involved and how do they shape reading culture? Finally, (4) Biology of Reading looks at how reading and the body are related to each other, particularly when the materiality of texts has changed. This thesis aims to understand the contemporary state of narrative reading experiences on screen versus on paper, and it thus needs to know what the contemporary reading culture is wherein a reader (and the actual readers of Part Two) read(s). Throughout, we will look at how the screen may change these different aspects of reading culture.

Psychology of reading

In the 21st century, reading is thought to be good for you. Even if the specific benefits of language learning or empathy stimulation are not mentioned, we have a positive connotation with reading — as opposed to e.g. playing computer games, which are considered to be purely for entertainment, not for additional beneficial effects. Of course, there are still ‘bad’ books which are considered of lower quality, and they may still have a negative effect. Stephanie Meyer’s YA Twilight series, for instance, is a massive hit among teens and even many adults. However, the book has been torn apart by both literary critics and psychologists, who argue that the relationship between the main characters is abusive (Goodfriend 2011) and who proclaim that the books are anti-abortion (Wilson 2011). This, of course, does not set a good example for the thousands of teens, primarily girls, who read the books.

Simply saying “I read many books“ still has a positive connotation, however. The New Yorker has recently published a wonderful article about the merits of so-called bibliotherapy: “Can Reading Make You Happier?” (Dovey 2015). The author of the piece was given a “reading prescription” on the basis of elaborate questionnaires about herself, her hopes, fears and personal history. Dovey declares that the prescribed books helped her through unexpected difficult times, bringing her not only what she sought for but also what she did not seek. She sought for ways to deal with grief — but in her reading prescription she also found a more subtle understanding of other complex situations. In her case, the prescribed books helped her through a long period of physical pain and distress.

From the perspective of bibliotherapy, fiction can thus be administered as a psychological medication: a cure for the mind. However, this also works when there is nothing wrong with the mind, when the mind is simply “okay”: reading can make you mentally healthy, in the same way that a good diet and sports can make you physically healthy. This makes a suitable book prescription wonderful for everyone. Even more so for people who have psychological issues, such as emotional trauma. As author James Baldwin declares:
You think your pain and your heartbreak are unprecedented in the history of the world, but then you read. It was books that taught me that the things that tormented me most were the very things that connected me with all the people who were alive, or who had ever been alive.

By simulating real life experiences, fiction can help both those who have trouble feeling (for others) and those who feel too much. It is a safe space in which a reader can experience difficult or unfamiliar emotions; and it is a space wherein a reader can find that she is not so lonely in her emotions and thoughts as she may have thought.

A different aspect of the psychology of reading lies in the mental effort it takes. As promised in the Introduction, I wanted to return to discuss the difference between reading a book and watching a film from a psychological, cognitive perspective. While people are starting to equalize the two by saying, for instance, “I don’t need to read the book; I’ve seen the film!” I wish to argue that they really cannot be equalized. We should also consider why people even want to equalize them. These two questions can be answered in one go, with the key term cognitive effort.

People tend to gravitate towards the activity that requires the least intellectual effort. Browsing the internet can easily become a mindless activity due to its hypertextual nature (something we will return to later). Hyperlink after hyperlink is presented to us and we follow one tidbit of information to the next, often without a particular purpose. We might forget what we were looking for in the first place — and realizing even this takes a while. Similarly, if we compare books to films, games and audiobooks, the latter three require far less intellectual and cognitive effort than the first. They are simply easier to consume. This immediately makes apparent why watching the film is not the same as reading the book: it is easier as it fills in much of the information a reader would have had to think up. This means that the film determines much more about how the story should be interpreted than a book would. Much of the viewer’s power to interpret is taken away — but the viewer does not mind. In the discussion about why hypertext did not become a popular text form, Mangen & Van der Weel (2015) have argued about a reader that she wants to let go of control: she wants the characters and story to be established for her. She wishes to be presented with multiple points of view “so as to be able to test his or her own theory of mind” (13).

This is where the psychology of consuming narratives becomes difficult. If we like testing our theory of mind, and we especially enjoy the more complex view points, why do we prefer films over books? Books leave more for us to ‘test’, as it leaves more gaps for us as readers to bridge. It makes us guess more at character motivations and thoughts. To me, it therefore seems that apparently we do not necessarily like to really strain our theory of mind. We also like it if it easy for us to guess that a character’s motivations, and we even accept it when character’s motivations are not very realistic (or lacking entirely, which is often the case in blockbuster movies).

Of course, there are many complex films that do play much more with forcing the viewer to think; or they deliberately trick the viewer. In general, however, these films are not blockbusters. The blockbuster films have simpler plots and usually uncomplicated (or even flat) characters: they do not require much of our theory of mind to understand.

Sociology of reading
The sociology of reading has changed radically through time. As has been illustrated theBrief Historization readers used to read out loud. Before the mass-produced portable printed book,
reading was a social activity for young and old: everyone (that is, those whose family had the money) could gather around the large, illuminated manuscripts. While reading with and for children is still obviously social today (from classroom reading to bedtime stories), adult reading is silent and involves only one reader with one book. For (young) adults, the act of reading then appears to have become completely personal and intimate.

However, with the arrival of the screen (and all that is associated with it), reading is becoming increasingly social again. I would argue for the emergence of a new kind of reader that is different in three ways.

Firstly, due to the internet, a para-reader reads more than just the book text: she also reads book reviews (critical and by fellow readers) and authors’ biographies. Burke (2011) argues that reading is a process that starts before the actual reading and ends after the actual reading, and this is especially true of the para-reader. She has likely already read something about the book and/or author before she starts reading the book, first of all by looking at the blurb on the back or inside the book. She may have also heard about the book from friends, or read about it (since everyone shares so much online) on a social network, blog or website. Furthermore, once she is done reading, a modern reader is likely to look up more information about a book or author after reading, especially if she liked it.

Secondly, what is means to ‘be a reader’ has changed: there is no standard kind of reading or reader anymore. As I have noted in the Historization, the appearance of the screen has taken back much from oral culture and has brought it back into written culture. In contemporary (Western) society, all screen users are readers. While the colloquialism “to be well-read” still implies that what this person read has a high quality, the literal meaning has stopped coinciding with this since the end of the 19th or early 20th century, when literacy and book reading became part of culture and entertainment on all social levels.

Thirdly, reading has become social: reading has moved into the public realm, which is a shared realm and a realm of sharing. It has become part of the 21st-century social network, which a website such as Goodreads shows particularly well. Readers do not only wish to show each other — friends or strangers! — what they read but they also wish to give their opinion and discuss interpretations. Quotes from books are not simply remembered or copied for personal use: they are saved and shared online. The process and experience of reading — both very intimate — appear to become more shareable, especially when reading takes place on the same screen where a reader’s social activities take place. These activities are more difficult to separate when they are only a window apart.

These three properties of the para-reader are not valid for all contemporary readers, but they do show in which direction readers and reading are moving. Overall, reading is diversifying even more: what is read, who reads, why they read, and the means are by which they read.

**Technology of reading**

Let me first discuss the area in which the sociology and technology of reading overlap. Van der Weel has argued in *Changing Our Textual Minds* (2011) — and the very title implies — that the changes of reading technology has changed readers themselves. In the shift from paper to screen, it is not only the substrate that changes, there is also a change in modality. Whereas paper allows for a limited amount of modalities, the screen is able to showcase virtually all modalities, and is otherwise very adept at imitating them. Moreover, the screen is a space where many different kind

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2 See appendix 4 for my paper on the para-reader.
of activities converge. On screen, reading a book is only one of many activities — whereas it is only thing you can do with a book (it is the only intended thing, in any case).

Even if, for a moment, we ignore the non-reading activities and other media that we can access on screen, reading a book on screen is still a more multi-faceted experience than reading a book on paper. Contemporary e-readers have dictionaries, highlighting functions and search functions, for instance; tablets have share functions for social media and e-mail.

If we do take those other activities into account, the other possibilities of screen technology come into play. If a reader uses a tablet or laptop for her reading, it is likely connected to the internet. While reading, she may receive completely unrelated notifications through different platforms, she may be playing music at the same time, she may be distracted or distract herself by quickly checking Facebook or looking something up on the internet.

What do these different activities do to the space wherein a reader reads? Collins (2013) notes an interesting opposition that the internet-connected e-reader (or tablet or any kind of screen) brings. On the one hand, it provides apparent personalization, while on the other hand, it makes reading extremely social and shareable. This personalization lies in the options that screen technology offers: the user chooses which programs or applications to download and what the screen looks like. However, this personalization could be called a mock personalization since it is limited by the screen technology itself: the possible choices are pre-programmed and not actually created by the user. Nevertheless, we may feel that our device is our own personal space. Indeed, we feel more comfortable using our own devices than other people’s devices, especially when different operating systems are involved. On our own device, we know ‘where’ everything is and how it works. When we look at the connections between technology and the socialization of reading, we see that the internet-connected screen-based device plays a major part in this. Virtually all apps on smartphones, but also an increasing amount of computer programmes, have a share button. Users are encouraged to “show their friends” (on e.g. Facebook and Twitter) what they are doing or reading. Again, at face value, this appears to be a socialization of reading: you share with others what you do, and you can see what they do. Actual communication about the shared things is often absent, however. It is not really social to see what someone else does or reads without it being part of a conversation; it is as if you see someone read a particular book on the train. Websites such as Goodreads of course encourage this conversation — but they, too, have a ‘like’ button that makes it easy for users to signal their approval of what others read without actually saying anything about it. Collins (2013) rightfully points out that the screen as a reading device is thus at once apparent socialization and de-socialization.

Let us look in more detail at what defines these two separate reading media and substrates. The book is almost entirely predisposed for one purpose and it is the product of decades of external and internal development. While one book differs from the next, they share a recognizable typography and form. While the screen as a material object is as recognizable, the shapes that narratives take on screen are less tangible. The screen is not only predisposed for reading; not even primarily. Rather than reading a screen like we read a book, we watch a screen. The screen has images, films, music videos, games. The engagement with the screen goes from extreme passiveness (watching a film) to extreme interaction (shaking the screen, swiping on the screen, and talking to the screen while playing a game). Text is just one of the screen’s modalities; textual narrative just one of the kind of narratives it can convey. The screen is then not merely a reading technology in the way that the book is: it is a technology of many other things as well. Because of the screens’ many functionalities and modalities, ‘reading a book on screen’ and all of its connotations are not necessarily a unified or comprehensive thing. On the more technological side of this issue, we could compare applications that have been designed for reading books
(such as iBooks and Kindle) with applications that are intended for displaying all kinds of PDFs (Adobe Reader). Besides the sociological implications, the hardware (e-reader, tablet, laptop, computer) and software may complicate the apparently straightforward concept of ‘screen reading’. The screen is a rich and diverse medium: a combination of substrate and modality (really: modalities), and thereby a more complex and layered medium than paper. This makes it all the more important to investigate what happens when reading, especially different kinds of reading, moves from paper to screen.

The screen is another step in the evolution of the book as something that is de-personalized. The manuscript was carefully hand-crafted and copied for a buyer and still inspires awe in today’s readers as something old and unique. With the advent of the printing press and the mass-production of books, the individual book-object lost its aura. We — readers of all ages — attempt to recreate this aura, consciously and subconsciously. If a book was owned by a famous person, that person’s aura is attached to the book (e.g. Virginia Woolf’s personally typeset copy of T.S. Eliot’s “The Waste Land”). Even familial relationships cause that aura (“this was my father’s book”) and one’s own attachment to the book (“this is my book”). It is thus not the object itself that has the aura anymore: it is attributed by its readers. Aura is a human imprint on the book.

An interesting contemporary attempt to intrinsically give a mass-produced book aura is S. (Ship of Theseus) by Doug Dorst and J.J. Abrams. The novel comes with a number of inserted items (letters, postcards, a napkin with a map drawn on it) and has a great amount of what appear to be handwritten notes in the margins by two of its readers. This shows an awareness of what gives the book its aura, and by its overload of aura-like elements it becomes almost gimmicky. Nevertheless, its inserts and handwritten notes show things that are unique to the material book experience; S. rejoices in the possibilities of the codex.

The potential loss of aura may explain the fear that some readers and literary scholars have of the screen as a technology that (partly) replaces the book. The screen has no aura and neither does its content. The screen-object is mass-produced — like the book — but is less inherently customizable or personal. We can give it a particular cover, we can install applications, and we can change colors and backgrounds — but these are fragile customizations. After a reset and with another cover on, it looks nothing like ‘our’ device anymore. On a material level, while we can be sentimental over grandfather’s 1880 Underwood typewriter, I doubt my grandchildren can be sentimental about my 2011 Macbook Pro. In fact, they will never see it, as it will be thrown out and recycled long before I get my first grandchild. And I will get a new Macbook. If I have backed up the content and customization of my old Macbook, the new one can look and feel exactly like the old one within an hour. The content of the screen is extremely reproducible. A digital text can be displayed on all screens, it is not unique to my ‘personal’ screen(s). A celebrity tweet is thus as un-aural a sight on a stranger’s iPhone 6 as on my mother’s decrepit PC monitor.

The only way an object can have aura in contemporary society is by being unique in the sense of there only being one copy. But we can copy everything on screen with a single click. Therefore, e-books and online texts cannot acquire the same aura as print books. Due to their lack of materiality and their effortless reproduction we as readers cannot attribute aura to the them. When we read a text on screen, we can only attribute aura to the idea of the text, which is abstract and difficult. Perhaps that explains some of the underlying fears of those who do not like the book’s migration to screen. It makes it impossible to say “I love this book!” or “I hate this book!” as we clutch a screen that is not inherently that book.
The technology of the screen has thus changed a number of things about contemporary reading, primarily its materiality and (accompanying) aura.

**Biology of reading**

There are two things I wish to address here: firstly, our embodied interaction with the (im)material book (technology), and the secondly, suggestion that the brain may actually be altered by reading stories.

Besides the kind of abstract concept of aura, the book has something much more tangible: literally, its tangibility. In discussing the biology of reading, we can look at the body of the book and the body of a reader, and then how these interact.

Firstly, the body of the book is probably as familiar to us as our own. Even though books all look and feel a little different, they mostly look and feel the same. We — as book readers — love their feel and smell. Despite this, when we read a book, we are not aware of the book as a material thing. It would be bad if we would be constantly aware of the book body: it would prevent or at least diminish our ability to get lost in the story. The familiar shape and typography enable us to read without the book distracting us: we have become completely habitualized to the book object.

Then our bodies. The fields of embodied narratology and embodied cognition are still fairly new but they have strongly established the (perhaps paradoxical) role the body plays in narrative experiences. As mentioned before, and as I will discuss in more detail in the next section, we often read in order to forget the world around us, to become transported to another time and place. This would imply that we also ‘lose consciousness’ or at least awareness of our own body. Embodied cognitive studies have found that the body actually plays a huge part in enabling this experience, and that stronger reading experience correlate with stronger embodied responses (Kuijpers & Miall 2011, Wojciechowski & Gallese 2001). Moreover, the more immersed a reader is, the stronger his or her bodily feelings are (Kuijpers & Miall 171, Wojciechowski & Gallese 20). An explanation for this may lie in what Jarrett (2013) has described as “the most hyped concept in neuroscience”: mirror neurons. The basic concept is that we (and other animals) have mirror neurons in our brains that mirror activities that we see done or that we read or hear about. In Kilner & Lemon’s “What We Currently Know about Mirror Neurons” (2013), the authors argue that there are different mirror neurons with different behaviors: some get triggered by seeing something done, others by reading about it, others by hearing particular sounds that accompany particular bodily movements. As an empirically researched subject, mirror neurons are still fairly vague. They would explain very well, however, how the narrative reading experience can be at once immersive and embodied. If we read that our protagonist is being chased by enemies and crouches behind a bush, among the dry leaves, to hide, our brains may trigger our own embodied experience of crouching and the feeling, sound and smell of dry leaves. It would also explain the popularity of adventure narratives, as all the fantastic action in there would hypothetically activate our mirror neurons very strongly (as opposed to a more descriptive or contemplative, abstract story). An empirical example of this would be Kuijpers and Miall's (2011) find that the foregrounded sentences in stories could be correlated with an increase in bodily feelings by readers.

Does a transition of the book body to the screen affect our embodied reading experience? Theoretical and empirical research suggests so. In the first place, our habituated reading experience has been built up on the basis of the book's fairly solid format: typography and bodily
interaction (turning pages, the way we hold the book). The screen can have different sizes and
different typographies. While e-books do tend to follow conventional typography, we cannot ‘turn
pages’: we tap or swipe. Our reading habits, which have for most of us primarily developed on the
basis of printed materials, cannot entirely help us here. We cannot yet read with the same
automaticity as it can read books. This difference does not only occur with the substrate alone.
The difficulty goes beyond the materiality, as many scholars have found that screen readers suffer
from navigational issues: they do not know where in the text they are (Baccino 2004, Dillon 1992,
Mangen & Kuiken 2014). An embodied experience of the book entails knowing exactly where
(how far into) a book we are; the 2D screen does not have that embodied aspect. Most of the
studies that discuss the negative effect of navigation difficulties are very old, however; and
modern studies such as Mangen & Kuiken do not find negative effects of the fact that screen
readers do not know their exact place in the text.

It appears that more research is necessary with today’s screen devices (such as Mangen &
Kuiken’s 2014 iPad experiment) to understand what the measurable effects are of reading a story
on a screen versus on paper. It is clear, however — also from Mangen & Kuiken’s research — is
that readers do consider the screen medium to be more awkward to deal with. In any case,
anything that is significantly different from the standard book format will disrupt our habituated
reading experience in some way or other. We may become more aware of our bodies because of
the awkwardness of dealing with the different medium materiality, and the different bodily
movements that are necessary. Furthermore, readers report that they simply miss the materiality
that is specific to the book: the feel and smell of paper pages and turning pages (Gerlach &
Buxmann 2011). The disorientation that is caused due to the lack thereof causes something
Gerlach & Buxmann have called haptic dissonance: what we feel (the screen) does not match what
we do (reading a book). The above goes to show that the medium difference indeed changes the
embodied reading experience. But is that change good or bad? Or does that depend entirely on
a reader’s personal preference?

Finally, in relation to the biology of reading, fiction reading may actually positively alter the
biology of the brain. Berns et al. (2013) found that novel reading generates connections in the
brains that persist for several days after reading the novel. The changes were found in the areas of
the brain that had to do with language and motor skills. The authors hypothesized that
transportation (an experiential state of reading which will be discussed later in this thesis)
increased the connections in the motoric area (Berns in Clark 2013). The authors chose a novel
which would be easy and exciting to read for their study but which was not special to the
participants. Berns hypothesizes that “your favorite novels could certainly have a bigger and
longer-lasting effect on the biology of your brain” (Berns in Clark 2013). Moreover, if this is true,
then perhaps the brains of those readers who read much and who read consistently, are changed
more or for a longer time.
5. The Narrative and/or Literary Experience

The narrative and literary experience are centuries old, and modern readers rely on the book's strong standardization in allowing them to fairly easily have a narrative experience. What does a narrative experience consist of? We will attempt to answer this question, and the question of how the narrative experience may differ from a literary experience. We will consider the different elements, aspects, dimensions or states that make up the narrative experience. Finally, we will consider what the shift of reading from paper to screen may mean for the narrative experience.

Determining the difference

While the terms narrative reading experience and literary reading experience are sometimes used interchangeably, they are not exactly the same. A narrative is not necessarily literary, after all. While the border between them cannot be made explicit, Koopman & Hakemulder's (2015) discussion on the literary reading experience gives a good idea of some of the features that distinguish a literary reading experience from a narrative one. They argue that “‘literariness’ has been typically conceptualized as a combination of the aesthetic and the unconventional” (83). Literariness then relies on the narrative being told particularly well or beautifully, and on being extraordinary in some way or other.

Furthermore, while the narrative and literary reading experience may share experiential aspects such as transportation and empathy, Koopman & Hakemulder argue that literature evokes more empathy because it uses more narrative devices that stimulate foregrounding and defamiliarization (80, 88; Miall & Kuiken 1994, 1999). In the view of Koopman & Hakemulder, “foregrounding leads readers to become unsettled and to start looking at things differently (‘defamiliarization’). This would provide an explanation for the process of reflection” (94). In this way, literature supposedly causes a reader to pause more often during reading, which therefore has a different impact on a reader than a non-literary narrative. Indeed, if a narrative is too fast-paced and does not give a reader time to emotionally process the information, this may lead to emotional confusion (Zillmann 1994).

On the other hand, I would argue that literature's many devices may hamper a reader who seeks a fast-paced, highly immersive experience. A reader may not wish to self-reflect, and she may not be interested in an esthetic experience. This is to illustrate that literature does not necessarily provide a ‘successful’ literary reading experience; nor a narrative a ‘successful’ narrative reading experience, for that matter. As I described above, a reader does need to be willing to open herself up to create and be subject to either experiences.

On the basis of the work of Koopman & Hakemulder, and Miall & Kuiken, we could then list the differences as follows. In comparison to non-literary narratives, literature generally 1). uses more narrative/literary devices; 2). has a slower pace; 3). causes more foregrounding; 4). causes more defamiliarization; 5). causes more self-reflection; 6). evokes more empathy.
This shows that it is still complicated to say “this is a narrative reading experience but that is a literary reading experience”. Where, for instance, is the boundary between “some defamiliarization” and “much defamiliarization”? Another boundary that we need to consider is the one between the reading experience itself and the effects of the reading experience.

Experiential states and/or aspects of narrative responses and experiences

In this thesis, Kuijpers et al.’s (2014) SWAS, or Story World Absorption Scale, will be taken as the method to describe (and in Part Two: measure) the narrative reading experience. We will also discuss Busselle & Bilandzic (2009) Narrative Engagement Scale. It is important to note, of course, that these are pragmatic measurement instruments. They give us one way of defining different dimensions within the narrative experience. To begin with, Kuijpers et al.’s SWAS consists of four experiential states that together give an idea of a reader’s level of absorption during reading. They developed their scale as a way of finding out whether different kinds of stories trigger different levels of absorption (and indeed found that this was the case). The four experiential states in the SWAS are: 1). attention; 2). transportation; 3). emotional engagement; 4). mental imagery. Finally, they measured enjoyment and impact to verify the functionality of the scale, and found that the SWAS indeed consistently correlated with enjoyment — more so than Busselle & Bilandzic’s Narrative Engagement Scale (Kuijpers et al. 113). While Kuijpers et al. measure four experiential states with 18 items, Busselle & Bilandzic measure 10 aspects of narrative response with 12 items: 1). empathy; 2). sympathy; 3). cognitive perspective-taking; 4). loss of time; 5). loss of self; 6). narrative presence; 7). narrative involvement; 8). distraction; 9). ease of cognitive access; 10). narrative realism. Busselle & Bilandzic thus show more nuance in the different aspects of the narrative experience that they measure.

The difficulty of these kinds of scales is of course how they conceptualize the total thing that they measure: Kuijpers et al. call it absorption, Busselle & Bilandzic call it engagement. While Kuijpers et al. convincingly justify the difference between whether dimensions were part of or effects of absorption (104), one can question whether e.g. emotional engagement is a dimension of absorption, or whether absorption is a dimension of emotional engagement. Can an embedding or cause-and-effect link even be established between the two? Could the relations between them change for different (kinds of) narrative?

There are some links between different facets of the reading experience that have been established with certainty. The link between transportation and emotional engagement are often seen in some kind of dependency to each other, particularly of transportation as a prerequisite for empathy and/or emotional engagement (Kuijpers et al 116, Koopman & Hakemulder 90, Bal & Veltkamp 90). If a reader feels less transported, she also feels less empathic towards the characters. Furthermore, Kuijpers et al. noted, for instance that not all dimensions of absorption contributed equally to either enjoyment or impact (the effects of absorption): transportation could be linked to enjoyment more strongly than to impact (110).

Narrative emotions

Burke (2011) and Mar et al. (2011) consider what precedes the reading itself to be part of the reading experience. For instance: the choice for a particular book. According to Zillmann’s (1988) mood management theory, a reader would choose something that makes her feel better or that sustains her good mood. This does not explain why people may choose very sad or scary stories (across media), however — for elaborations on this, see e.g. Oliver (2006) and Garrido & Schubert (2011). These scholars argue why people may still enjoy experiencing sad emotions through film and music. In fact, Oliver (1993) has argued that more drama in a story means that a reader will
experience more enjoyment. Research in this area has been primarily performed with visual narratives (films and TV series) however; they need to be replicated for the narrative reading experience (Mar et al. 821).

A reader’s choice and mood before reading complicates the measurability of or ability to pinpoint narrative emotions, i.e. emotions in response to a narrative. A reader does not start reading as an empty vessel to be filled only with the narrative-induced emotions; she already has particular feelings herself which may or may not have anything to do with the book she is reading. This definitely makes it difficult to measure the narrative experience as a neatly encapsulated experience.

With respect to emotions in response to narrative, Mar et al. distinguish between aesthetic and narrative emotions. (This same distinction was one I made before when I discussed that I wish to discuss the \textit{narrative} experience, not the \textit{esthetic} experience.) They see five subsets of narrative emotions: emotions of 1). sympathy; 2). identification; 3). empathy; 4). relived emotions and 5). remembered emotions (823-6). They argue that these emotions should be apprehended in the context of Frijda’s \textit{laws of emotion}, in which narrative emotions are “elicited by events appraised as real” (Frijda 8). A reader thus emotionally responds to events in a narrative as if the event would be real (a death of a favorite protagonist elicits genuine sadness or anger).

\textbf{Narrative reading and empathy}

If we accept Frijda’s laws of emotion, it is not difficult to see a connection between narrative reading and our ability to empathize. In Dutton’s (2009) view, the arts and most of all narrative

\begin{quote}
serve a particular adaptive feature for a species that, thanks to its huge brain and the complex situations it came to face (particularly in dealing with other human beings), has risen well above the more simple, routinized responses to the environment characteristic of other animals (120).
\end{quote}

From this evolutionary perspective, stories fulfilled an important role in helping us understand the world and others. An essential part of understanding others is to empathize with them: to feel with them, to feel what they feel. Again, it can be argued that written (as opposed to visual or aural) narratives fulfil this function best since a reader is challenged to put herself in the shoes of others without being told entirely what that would be like. She is asked to \textit{imagine} what this \textit{would be like}. By contract, most popular contemporary films give many cues about what it \textit{is} to be like this person, through point of view shots, camera angles, lighting, music etc..

Practicing the ability to step into someone else’s shoes — i.e. theory of mind — would train a reader to become better at inferring what the other feels or thinks on the basis of few cues. After all, real life does not offer a convenient soundtrack or visual angle to help us guess at the other’s intentions. Indeed, among others, Koopman & Hakemulder (2015), Mar & Oatley (2008) and Mason & Just (2009) have sought to connect (literary) narratives to an increase in empathy. Reading, then, would make you more sensitive to others’ feelings.

There are two different kinds of empathy that are involved in the narrative experience. Mar et al. (2011) distinguish between state and trait empathy: the first is empathy elicited by the narrative whereas the second is a reader’s ‘innate’ empathy. It is argued that much reading — and thereby much state empathy — temporarily increases one’s trait empathy (84). No research has been done on the long-term effects of this yet, however. Furthermore, as Koopman & Hakemulder (2015) admit, we cannot be sure if a reader who has more trait empathy is not also simply more attracted to reading narratives that allow her to bask in the range of emotions elicited by her strong trait
empathy. After all, as Oliver (1993) claimed, more emotion causes more enjoyment, which implies that a more empathic reader (a reader more sensitive to others’ emotions) would inherently enjoy narrative reading more.
6. Reading Strategies and Habituation

This section discusses the (meta-)cognitive elements of reading. From the position of this thesis, the following elements are at the core of what shapes a reading experience when comparing reading media and substrata: reading strategies and the habituated reading process. We will begin by looking at the concept of reading schemata: the idea that we may have a set of smaller cognitive frameworks that determine how we read different kinds of texts. We then look at those different kinds of texts. With this basis, we will look at how they enable the habituated reading experience. Finally, we look at how the screen may disrupt our habituated reading experience, and how our preconceived view of the screen changes the way we read texts on screen, in comparison to how we might have read the same text on paper.

Reading schemata and strategies

While I have specified the kind of text and the kind of reading that are of interest to this thesis, it is important to pay attention to the context of texts and the different kinds of reading that texts elicit. In his dissertation, Zwaan (1993) argues how unlikely it is that every kind of text is cognitively processed in the same way (1). While text comprehension for different kinds of texts may share many of the same features, the goals of a reader and thereby the process differ (1-3). To illustrate this, Zwaan refers to an experiment Fish performed on his literature class (Fish 1980). Fish gave students a text which was not a poem, and told them to analyze it as they would analyze a poem. While Beaugrande (1987) makes a fair point in saying that students would have easily recognized that the text was not a poem, what I consider important to take from this discussion (which was focused more on literariness) is the fact that it shows particular kinds of reading do fit with some texts, and not with other texts. It must have been clear that it is odd to analyze a recipe or review as if it is a poem; it is not the right reading strategy to use. As Van Der Weel (2015) has argued, “we have become typographical people”. Firstly, we automatically recognize that formatting gives cues about a text we are about to read, and secondly, we adapt our reading strategy to that kind of text. Contextual cues, such as Fish’s instruction to read a text as a poem, also influence a reader’s reading strategy, which is not always consciously chosen.

We can describe this by saying that a reader has reading schemata. Not only to interpret narrative events and characters within the text but also to automatically choose the kind of reading strategy that fits with the text. For instance, does she read to gain information about real-life events, information about how the microwave works, or does she want an enjoyable narrative experience? Burke (2011) discusses the notion of schema as “a portion of background knowledge relating to a particular type of entity, situation or event” (6). In this case, the text is a kind of entity with which a reader has a great amount of experience, being as she is of a typographical people. Bartlett (1995), from whom the notion of schema derives, found that a reader’s background knowledge might even overrule the information given by the text (201).

Something that is similar to reading schemata, but which is determined much more by a reader’s intention, is the reading strategy. A clear 3-part distinction of different strategies was already proposed in 1968 by Heyer: grazing, browsing, and hunting. A reader who grazes, takes her time on a text and reads it with a leisurely pace. A browsing reader may skip parts of the text that do not really interest her, but she might not be looking for something specific in a text. By contrast, a
A reader only reads through a text in order to find a specific idea, section or sentence that will be of interest.

**Types of text**

Bartlett and Burke discuss the interaction between the content of a text and a reader’s engagement with it. There is also interaction between the text as an entity with specific visible and tangible features (its formatting, medium, and easily recognizable stylistic features that indicate the text genre) and a reader who (automatically) chooses a reading strategy on the basis of that text entity. In practice, this might mean that if a text has all the features of one genre text, but is another kind of text, this may lead to a reader mixing up her schemata and imposing the ‘wrong’ reading strategy on the text.

De Costa Falho (2007) performed an experiment with readers that were used to reading literary texts, and those that were not, to see how they would cope with defamiliarizing narrative features. In other words, how does a reader respond when her schema does not automatically help her decide the appropriate reading strategy. De Costa Falho found that “the majority of the participants was not able to develop appropriate refamiliarizing strategies … readers want to spend the least effort and do not try to look for more efficient strategies” (120). In this example, we can see that we are not very good at changing our schemata, or changing our very way of reading, even when are faced with a difficult text. A text thus has to give us clear cues, otherwise we do not choose the right schema, which may result in a disruption of our reading experience and comprehension.

Before looking at the habituated narrative reading experience, it would be interesting to spend a short moment to consider the ways in which text has changed since the inception of the screen. First and foremost is of course the invention of hypertext: text that does not have a strict order but which can be traversed like a encyclopaedia (the first kind of hypertext). The World Wide Web is one big hypertext, allowing everyone with a computer and an internet connection to use it and to add to it. In the 90s and 00s, some literary scholars predicted that hypertext would give us the hypertext novel, which would cause a shift in control from author to reader. Mangen & Van der Weel (2015) explain why we do not read hypertext novels because we — as readers — do not like to be in charge of what happens in a story. The hypertext would not allow a reader to become immersed, as she would be pulled out of the story every so often to make a choice of what should actually happen in the story.

In response to digital textuality, a number of print books have emerged that emphasize their own materiality by using modalities which are difficult for the screen to replicate convincingly. They may change the typography, or cut out pages, or insert flip book sequences, or insert postcards to force a reader to deal with the book's materiality. Think of Mark Z. Danielewksi’s books, *The Raw Shark Texts* by Stephen Hall, *Tree of Codes* by Jonathan Safran Foer and particularly *S.* by Doug Dorst and J.J. Abrams.

**Habituated narrative reading experience**

We do not look for more efficient strategies because we are animals of habit. If De Costa Falho’s results are reproducible, it may also be true that we would not correct ourselves when we mix up two reading schemata due to unclear textual clues. It would take too much effort. From the perspective of this thesis, this is at the core of possible issues with screen reading: unclear and ever changing textual cues which could easily lead to mixing up reading schemata.

What role does the habituation of our reading experience play in this? Its experiential aspects have been addressed in *The Narrative and/or Literary Reading Experience*. The steps towards
a habituated reading experience could be described as follows: 1). standardization, 2). familiarization, 3). distance, 4). transparency. The standardization that is necessary for the habituated narrative reading experience is in the text: punctuation, grammar, spelling, typography, and materiality. A book has covers with recognizable information (author name, title, illustration, blurb). It may have chapter titles and page numbers. What draws all of these things together is that their place and appearance have been standardized to such an extent that a reader will never wonder, “what is this?” Standardization is necessary to form habits: there is no (great) cognitive effort in processing the standard elements of a book when they are in the right places.

Familiarization is the process wherein we become used to these standard features of a book. This is something that most of us go through at a very early age, even before we are able to read ourselves. The bedtime story reading mentioned in Reading Culture shows that, from a very young age, we see these standard book features almost every day. This extremely rigorous repetitive training leads to full familiarity with the features of the book.

Once we are completely familiarized with standard book features, we can ‘distance’ ourselves from them. This happens automatically: we do not consciously register the typography, the page numbers, or ourselves in the process of reception. The reading experience then takes place at a cognitive distance from both the book-object and the text, and at a distance from our own self-consciousness.

If this distancing happens flawlessly — as it eventually will — a reader arrives at a state of transparency or even transcendency. While a reader holds the book and reads the letters, her experience is not of holding the book and reading the letters: her experience is that of what she reads in book. Her narrative experience — of protagonists feeling and doing — drowns her experiential consciousness of the real world. Her own world becomes transparent and she sees the protagonist in the story world.

Some examples

Standardization and familiarization are necessary for the habituation that can bring the reading experience to that transparent stage. The Russian formalists (Skhlovsky prominently among them) first took advantage of this by deliberately breaking through the standardized narrative features. They wanted to defamiliarize a reader, to take away a reader’s ability to fall into her habituated reading schemata. Two interesting contemporary examples of this are the novel House of Leaves by Mark L. Danielewski, and Young Hae-Chang’s Heavy Industries’ screen poetry. They function as a way of hallmarking the strength of habituation by showing how difficult it is for a reader to adapt to their non-standard features. Not only the process of passive reception is different, a reader is forced to physically adapt: she has to turn around House of Leaves in her hands, and she has to be fixated on and attentive to Hae-Chang’s rapid screen poetry — book reading becomes an activity that requires physical activity, and the screen suddenly demands extreme attentiveness rather than passiveness. The effect of this may be that a reader becomes aware of the process of reception; she may become aware of her own body and mind in that process. The ultimate state of narrative reading is the state of transparency, which obviously cannot happen when a text (material or screen) emphasizes its own materiality, and (thereby) a reader’s bodily interactions with it.

House of Leaves defies the standardization of typography: not all of its pages are formatted in the same way, different text sizes are used and, most importantly, text blocks are placed within text blocks and are sometimes printed at a 90° angle. A reader has to turn around the book to read everything, and is therefore made conscious of the book’s materiality and likely also becomes more self-aware in her acts of turning the book. A reader cannot familiarize herself
this non-standard typography within the span of a book, and thus likely wanders between the stages of defamiliarization and transparency. Young Hae-Chang’s Heavy Industries does something similar, but on screen. One of the distinctive features of reading narratives is that a reader can return to a previous section or sentence very easily. Young Hae-Chang does not allow his readers to do this: his poetry flashes by one or a few words at a time at the beat of experimental music. A reader cannot go back; a reader cannot even take a break as she would miss part of the poem. What is particularly compelling about this is that it defies the idea that screen allows for a more shallow kind of attention: Hae-Chang’s visual poetry definitely does not. A reader is thus again defamiliarized as she cannot rely on her habituated reading schemata or strategies to deal with this rather stressfully visualized poetry.

Reading schemata, strategies, texts, and the screen

The two examples above showed how the habituated reading experience can be purposefully disrupted. The screen as we know it today may be doing the same, both intentionally and unintentionally. Advertisements that we see online demand our attention with bright colors, movement and sometimes even sounds: they are meant to distract us from what we were doing.

Much more importantly, however, is the fact that, due to the screen’s multimediacy and multimodality, having one reading schema or strategy for the screen is not enough. We employ them all, since the textual genres we see on screen are all very different. Posts on social media such as Twitter and Facebook, newspaper articles and e-mails versus essays, novels and reports: they are all present on the same screen. Furthermore, the typographical formatting of texts on screens is often in the shape of websites, which are all designed differently, and have hyperlinks and images. Most of the texts that are read online (much of our time on screen is spent online) are short and we use the strategies hunting and browsing rather than grazing. A reader’s attention is constantly pulled from one to the next text snippet. In fact, Liu (2005) found that when individuals need to read a longer text, or a text that requires sustained or deep attention, “they will print out and then annotate printed documents” (708). If his results can be quantified, that would clearly indicate that media such as paper and screen are clearly associated with particular kinds of texts and/or particular reading schemata and strategies. Vandendorpe (2015) gives clear examples of this distinction when he takes Huey’s concept of hunting and compares it to the screen’s “advent of sophisticated search engines and basic interactivity” (3). He argues then that the screen has become the thing we look at for hunting, while it “lags well behind paper for continuous reading activities” (3) (i.e. grazing). It appears then that the screen fits some reading strategies, while paper fits others, and the “rigidity of the screen and … technological barriers” (3) stand in the way of these strategies overlapping very well. Liu sees the same tendency when she argues that “electronic media tend to be more useful for searching, while paper-based media are preferred for actual consumption of information” (701).

A reader brings more to the screen than only her reading schemata. For her, the medium (paper versus screen) may have connotations which transcend the particular text (genre) that is on display. Murphy et al. (2003) found that “students who read online text find … authors less credible than those who read the printed version” (702). While the screen is not always bound to an online device, nearly everyone in Western society (definitely those who receive an education in that society) is familiar with the World Wide Web — which can only be accessed through a kind of screen, whether this is a computer, a notebook, a tablet or a smartphone (or even a watch). Since the internet allows everyone to contribute, it is natural that students have become more critical or skeptical of what they read online. This skepticism may then be carried over — as Murphy et al. found — to all texts online, and perhaps also to texts that are simply read off screens. More empirical research should be done to establish this.
7. Screen versus Paper:  
The Position of This Thesis

In this final section of Part One, I wish to draw together what has been discussed above. In doing this, I wish to show more clearly what stance and place this thesis takes in a field in which there is much outdated and unverified information. We will also look at two more difficult, overarching areas in the field of SvPR: medium bias and remediation.

As mentioned, most research on SvPR has been done in relation to comprehension and retention. This kind of research does not cover the whole field of SvPR but it is often suggested that results from this research can be applied to all screen reading. There have, however, been no recent papers on whether proofreading is currently more effective on screen or paper, or skimming texts, or reading different genres (among which narrative) for entertainment, or reading very long or very short texts for different purposes. From an educational perspective, comprehension and retention should indeed get priority — but research on those aspects of reading is not necessarily generalizable to all aspects of, ways of or reasons for reading. Moreover, even much of the research on comprehension and retention is outdated because our screens have improved so much and so fast over the past decades. Part Two will discuss the up to date and outdated research in the field in more detail. Here, I wish to specify what this thesis wishes to contribute.

This thesis wants to fill part of the lack of different kinds of reading in the field by discussing narrative reading on screen. There are many benefits to reading (in terms of language and empathy practice) and we must know if these benefits are as strong on screen as they are on paper. Especially since many people — scholars and (avid) readers and teachers — that the digital age has ended reading; people rather watch films, play games, or simply browse the internet now. What we have looked at, then, is the nature of the narrative reading experience and its history. What is it about books and reading that we love so much, and how has the development of the book-body allowed us to refine that narrative experience? We have discussed the culture wherein our reading occurs, and also the mechanics of the reading process itself. Throughout, we kept looking at what a shift of reading to the screen might mean for these aspects of reading, especially with regard to the narrative reading experience.

We have found that the screen has changed many aspects of (the narrative) reading experience. On the substrate-level the screen is replacing many book bodies: newspapers, magazines and also books are not printed anymore but stay on screen. Our bodily interactions with the screen device are very different from those with a book, which likely disrupts our reading habits, and may even disrupt reading experiences. On the modality level, we have seen that the screen is much more diverse than the book: besides text, it displays image, video, music and games just as well. The screen is a much more interactive modality: our ‘conversation’ with the screen is much more of a (bodily) back-and-forth than with a book. Again, we questioned how this might change the narrative reading experience, in which we want to be passive and be immersed in the story, not focused on consciously interacting with the reading medium. Of course, the book has had centuries to come to its most optimal form, and it has changed us into typographical people. We asked whether our sensitivity to text genres and typography would also function on screen, and found that, on screen, texts often do not follow ‘the typographical rules’. Websites
display texts in many different ways, interspersed with other modalities — which, in the case of advertisements, often have more power than text to draw our attention. Since websites all display texts differently, we do not always know the kind of text we are about to read: the typographical cues are less strong than those we receive from printed texts.

Diving into the specifics of reading long texts, among which stories, on screen, we found that a large issue for many readers is navigation: they do not know where they are in a text. The materiality of the screen does not change dependent on its content, just like Alan Turing would have wanted of his Universal Machine. Reading on screen, as opposed to reading on paper, might thus lead to haptic and cognitive dissonance. Nevertheless, it has not yet been proven that this dissonance also has a negative effect. The cause of this potential dissonance lies in the habitual and automatic ways in which we read, especially when it comes to narrative reading.

While we have looked at some empirical studies, most of the above is based on theoretical assumptions. The general assumption is that reading on screen is really very different from reading on paper. Most importantly, for narrative reading, it appears that the screen likely disrupts our ability to become immersed in a story for a number of reasons on substrate level, material or embodied level, and modality level. In Part Two, we will look at current and older research to investigate whether this can be confirmed by the experiences of real readers. Furthermore, a small empirical pilot has been set up to measure narrative SvPR using Kuijpers et al.’s Story World Absorption Scale discussed under The Narrative and/or Literary Reading Experience. Before moving to Part Two, there are still two issues we should address and keep in mind as we look at the empirical studies: medium bias and remediation.

Medium bias
The screen has given rise to questions on a conceptually higher level: Zuern (2013) has argued that, with the screen, we do not know “where” the text actually is (260-1). This makes sense if we consider the amount of textual (code or program language) layers behind the text we see on screen. Which of these layers is the text? Are they all? And if no one generates the text by calling it on to the screen, does the text even exist? However, we can be fairly straightforward when we consider the discussion to be ‘reading on screen versus on paper’. In that case, the text is displayed on paper or on screen, and so visually the text is on one medium or the other (though conceptually it may be in many other places). The matter of ‘where the text is’ becomes a matter of substrates.

In her 2004 Print is Flat, Code is Deep, Hayles has proposed MSA: Medium-Specific Analysis. This approach to media does not intend to see media in isolation — Hayles rather argues that media are continuously remediating in response to other (older and newer) media (69). MSA emphasizes that there is not one specific medium superior to the other. As a literary scholar, she argues that when you analyze a text, it is highly important to include the medium as part of that analysis. After all, the medium is what allows for the text’s existence (70). With the emergence of the screen, including the medium in textual analysis becomes especially important.

The danger that Hayles formulates as “(underlyingly) privileging one medium … over the other” (2005: 33), Zuern as “medial ideology” (262), and I as medium bias, is the researchers’ personal preference of one medium over another when discussing media. This preference may surface either by simply focusing entirely on one medium (e.g. only literature on paper), or by actually proclaiming that one medium is better than the other, for whatever reason. A medium bias I see return repeatedly in the works of scholars who work on media and literature is the persistent idea that the screen must be made similar to paper in order to be as “successful” as paper. What is implicit in this idea is the assumption that screen technology is inferior to book technology. For example, Dillon (1992) has argued that “[t]he better the image quality is, the more
reading from screen resembles reading from paper and hence the performance differences disappear” (22, emphasis mine), and “[s]everal researchers have pinned their hopes on improved manipulation facilities with electronic texts removing many of the differences between the media” (23, emphasis mine). Dillon’s assumption is that screen cannot inherently be better than (or even on par with) paper, and so it must resemble paper as much as it can to achieve equal performance. Plenty of literary scholars are also simply worried about the digital, which includes digital texts to the medium on which they are displayed, the screen. For instance, Hayles (2002) discusses Coover’s concern “about the relentless cycles of software innovation and obsolescence” (45). It may feel as if paper is a much more solid, static medium than the screen, and thus more reliable.

Of course, this reliance on stable paper has a long history. Van der Weel (2015) calls it the Order of the Book: “almost six centuries of printing have shaped our implicit assumptions about, and active practices of, knowledge production, distribution and consumption of books”, among which technologically inherent properties of paper: tangibility, fixity, permanence, visibility. Van der Weel’s (2015) Logic of the Screen is very different. When we apply the Logic of the Screen to ownership, gratification and attention, the difference with the book may worry those who like paper’s stability. This fear of change may then lead to medium bias; either a preference for the stable book or an obsession with the innovative possibilities of the screen. This is, of course, a waste. Love for the paper medium can be very well combined with exploring the screen. Vandendorpe (2015) actually defends the reproduction of the qualities of the codex, as he does not consider it to be “backward longings for a dead past, but … a quite rational desire to ensure a smooth transition between the remarkable achievements of the book and the new possibilities offered by the digital world” (Vandendorpe 4). Hayles (2005) gives a great example of this when she discusses the William Blake Archive. The WBA, the digitized oeuvre of Wiliam Blake, evidences one of the strengths of the screen with its huge number of intertextual (hyper)links and references which are made explicit in ways that are much more obvious on screen than on paper (115).

Remediation
This brings us to the topic of remediation, a term proposed by Bolter et al. (1996) to describe moving a particular text or other from one medium to the next. E-books are a great example of this. Scholars agree that one medium can never offer the exact same text as another medium, regardless of how well remediations may appear alike (Hayles 2004: 71). As Collins and Van der Weel have argued during the 2015 Ravenstein Seminar: print reading cannot (easily) be translated to digital reading or vice versa. Collins argues that they provide a very different experience, some reasons for which are given by Van der Weel in the shape of e.g. value attributions. A reader’s reading experience is then not only determined by the medium but by a reader’s individual experience with and appraisal of the medium.

These are important points to note, as they show us that the narrative reading experience on screen could never be the same as the narrative reading experience on paper. Simple difference, however, is not necessarily bad. Before we can determine how to deal with these different media effectively, we need to know what that difference is.

In order to do this, we must turn to empirical investigations of Screen versus Paper Reading, which we will do in Part Two.
PART TWO. EMPIRICAL

There is absolutely no difference between a hardcover book or an audiobook or a multimedia book application. There is no difference between a high quality paper or e-ink screen or a high-resolution Retina display. The biggest pleasure comes from what we read, not from on what we read.

(Piotr Kowalczyk)

It was only later that I realized the value of being bored was actually pretty high. Being bored is a kind of diagnostic for the gap between what you might be interested in and your current environment. But now it is an act of significant discipline to say, “I’m going to stare out the window. I’m going to schedule some time to stare out the window.” The endless gratification offered up by our devices means that the experience of reading in particular now becomes something we have to choose to do.

(Clay Shirky)

In the past a book was defined as anything printed between two covers. A list of telephone numbers was called a book, even though it had no logical beginning, middle, or end. A pile of blank pages bound with a spine was called a sketchbook. It was unabashedly empty, but it did have two covers, and was thus called a book.

Today the paper pages of a book are disappearing. What is left in their place is the conceptual structure of a book — a bunch of text united by a theme into an experience that takes a while to complete.

(The Technium)

According to McLuhan, Bob explained, “the ownership of an idea” was made inevitable by the invention of printing; it is this era that we are outgrowing, as McLuhan foresaw. “If the printing press empowered the individual, the digital world empowers collaboration.”

(Maria Bustillos)
On the Importance of Empirical Research

Part One shows that, in theory, many things change when our reading shifts from the book to the screen. Some of these theoretical changes may not be entirely positive: a loss of (deep) focus, an increase in cognitive effort, loss of empathy. To verify what actually changes, empirical research is required; we should not base a screen/paper reading policy (or even opinion) purely on theory, or on theoretical readers. In the area of reader response, many scholars discuss the experiences or reading processes of ‘the reader’, generally using only themselves and their own experiences as sample. Culler (1975) goes as far as to say that actual readers do not matter; all that matters is what “an ideal reader must know implicitly in order to read and interpret works in ways which we consider acceptable, in accordance with the institution of literature” (123-4). The problem with “an ideal reader” is of course that he or she does not exist; we must look at actual readers to understand how texts are really read and interpreted. And in the case of this thesis, we must look at the actual readers to understand how they deal with different media when reading narratives. Not how they would ideally deal with media, or how we expect them to deal with media. Those are only the premises or hypotheses. To answer the questions, we must know how the media actually affect narrative reading experiences.

In some scholarly fields, the idea that empirical research requires a justification must seem absurd. However, in the largely theoretical field of literary studies, such a justification is in place. Particularly so because, even in a field as young as reader response theory, much of what we know about readers is still only theoretical despite the fact that literary scholars often follow empirical methodologies, as Crews (2005) has argued. We often have hypothesis about an author or text and verify that hypothesis with textual evidence — but rarely with empirical evidence.

So what has been holding us back? McEwan () suggests that it is science itself: “it does not invite us in; it is objectifying, therefore distancing, corrupted by difficult or seemingly irrelevant detail” (6). Literary studies itself has plenty of experience with difficult or seemingly irrelevant detail in its theoretical or qualitative work, however. Another argument comes from Oscher et al. (2014) who argue that you simply cannot quantify literary research (133). They fear that quantitative methods would simplify the research and take away the nuance that qualitative work brings (127). Lauer (2015) approaches the issue from a higher level. He thinks literary studies do not represent a particular method in itself, but that literary studies question “the entitlement of sciences, and scholarship in general” (1). In that case, science’s methods — which literary studies often questions — would likely be suspicious to literary scholars. This may imply that literary studies does not question its own methodologies — which, as Crews argues, are in fact much like scientific methodologies — as much as it questions those of other fields.

This suspicion and the possible difficulty or irrelevant detail of empirical research may explain some of literary scholars’ hesitations to engage with empirical research. However, empirical research on literature does not need to be riddled with difficulty or irrelevant detail, and it may be — and should be — very transparent. I hope that the experimental pilot of Part Two will provide a good example of empirical research that is still perfectly readable for those who do not do empirical research themselves.

What could empirical research and evidence add to literary studies? Empirical research could not only function to confirm or disprove existing hypotheses in the field. It could — and would! — invigorate the field since it would allow for new and very different things to be asked. In fact, Van Peer et al. (2012) argue that literary studies is one of the few scholarly fields that simply cannot answer a great number of interesting questions because it shuns the gathering and use of empirical evidence (18).
Gotschall (2005) argues that quantitative research is something that a number of disciplines — such as medicine and demographic studies — were very skeptical of initially, even though we now consider quantitative research to be a vital part of them (201-3). By contrast, in literary studies, “general impressions are formed almost exclusively on the basis of qualitative impressions” (204). This thesis wishes to see whether those general qualitative impressions can also be informed or confirmed by quantitative, measurable impressions.

Part Two looks at some examples of empirical research that has been done in the SvPR field to understand the methodologies, measures and readers that were selected. The rest of Part Two consists of an experimental empirical pilot to measure the narrative reading experience across media. The experiential states that will be measured are those that are part of the SWAS, the Story World Absorption Scale developed by Kuijpers et al. (2014). The two main hypotheses are based on what the theory in Part One has suggested to be the changes in reading on screen versus on paper. The chosen method, participants and results are discussed in detail below.
1. Brief Survey of Empirical SvPR Research

While we have looked at some empirical findings in Part one, the following survey is a more detailed summary of some of the experiments done in the field. These studies will help us to understand the state of current knowledge in the field, and it will help us to understand which areas are still under-investigated. The studies will also show us what kind of methods and measures are common in the field. However, what must be kept in mind is that much of the research below is likely already outdated due to the improvement in screen quality over the past decades.

In “Reading from Paper versus Screens: A Critical Review of the Empirical Literature” (1992), Dillon provides an overview of experiments done in this area. Rather than re-summarize his (likely outdated) overview, I discuss some of his general comments on the overview. To begin with, he admits that providing an overview that gives ground for comparison is difficult since all experiments use different variables and different research settings, which means that their results cannot be generalized (2). This is still relevant for similar research done today. For instance, some researchers give all specifications of the screens that have been used in the research, while others provide incomplete or no information. One of the main difficulties all experiments in his overview have is that they change the natural reading environment of the user (10). This not only pertains to the factual setting participants find themselves in (e.g. in a classroom versus at home) but — I would add — also to the different factors that determine how and what they read on screen. The screen itself may not be like the screen(s) they usually read on, and the interface may also be unfamiliar. As Dillon notes, “the bewildering range of interfaces to computer systems and mastery of manipulation in one application is no guarantee of an ability to use another” (12). In other words, understanding how a screen works is not as straightforward as understanding how a book works. In the experiments, he sees repeated stress on “the importance of readers acquiring familiarity with a system and the concept of the electronic book in order to accrue the benefits of such facilities” (27). This is a major difficulty with the experiments Dillon discusses and I am sure many after: these experiments only measure something (e.g. reading speed) once. They do not consider or include a training for the readers to become familiar with the screen, environment, etc., so as to make these natural and non-disruptive. Since the conclusions that are drawn from such research are often very big and impactful (e.g. if a reader reads less well on screen, teaching (that reader) should not be done using screens!) it is essential that such training is included if the environment, screen and reading applications are unfamiliar to participants.

Ackerman & Goldsmith (2011) have looked at on screen learning (OSL) versus on paper learning (OPL) and found a number of interesting things, particularly to do with metacognitive aspects of text-based learning. They asked students to read texts on screen and on paper and take tests about the texts, and answer questions about their thoughts on their own learning process and progress. Ackerman & Goldsmith found that participants who were asked to learn for a test on screen were more overconfident in the extent to which they had learned the text than those who had learned for the text on paper (25). OSLearners were less successful at predicting at which point in time they had learned enough to score well on the test, which shortened the time these screen participants allotted to each text. The authors see the way the participants distribute study
time as an essential factor in determining how well they score in the end: “the efficiency of study regulation is the critical factor underlying the observed performance different” (Ackerman & Goldsmith 29). Self-allotted study time resulted in screen learners spending less time on the texts because of their overconfidence; because they felt sooner that they were done learning. But when the authors gave both OSL and OPL the same amount of study time, the test results were nearly identical. This experiment shows that metacognitive ideas about learning (“have I learned enough?”) thus do not directly influence the performance but they do influence the participants’ handling of the medium-based texts and tests, which in turn influences the performance.

Mangen et al. (2013) found a great difference in levels of comprehension in the test results between young children reading on paper versus on screen, namely that paper outperforms screen. Mangen et al. looked at these two media, and also at whether there are differences in comprehension on paper versus on screen that depend on the text genre, namely whether it is narrative or expository. They found no differences there.

Something to take into account when looking at reading comprehension is — as we saw in Ackerman & Goldsmith’s article — reading speed. Kerr & Symons (2006) found that children read more slowly on screen but also retain more information. This resonates with Ackerman & Goldsmith’s result: more time spent means more comprehension and retention. While this appears to be very logical, it tells us that the screen does not necessarily predetermine a students’ (or pupil’s) learning results — in Mangen et al.’s research we do not know exactly why paper outperforms screen. The authors themselves explain it by referring to older studies on navigation and access, multitasking, and screen elements such as fluctuating luminance and flicker. However, the studies they refer to go back as far as 1992 and may not necessarily cover all the relevant (modern) issues that influenced their 2013 primary school pupils. More importantly, since they discuss variables such as flicker, it would have been more helpful to involve recent research on the flicker of the particular screens they used than (perhaps outdated) research on older screens. After all, these results are not necessarily generalizable until we know more specifically why they occurred in this experiment.

Lauterman & Ackerman (2014) sought to test two methods to overcome screen inferiority — that is, paper outperforming screen or screen underperforming paper (depending on where you set the norm). Most importantly, they focused on what I mentioned earlier: the lack of training participants have in handling the screen before participating in screen versus paper experiments. In response to Ackerman & Goldsmith’s earlier finding that screen-bound overconfidence negatively influenced study results, Lauterman & Ackerman looked for a method to compensate for this overconfidence (2839). They had participants write keywords on the one hand, and simply gain familiarity with the type of text and format on screen on the other hand. From their experiments, they concluded that “by gaining experience with the task, screen learners improved their test scores, but did not acknowledge this improvement. The outcome was a reduction in their overconfidence” (2840). In other words, meta-cognitive obstructions of learning can be cleared away fairly easily.

Finally, Mangen & Kuiken (2014) have written an excellent paper where they discuss much of the same issues that are tackled in this thesis. In “Lost in an iPad”, they investigate what the difference is in narrative engagement on paper versus on an iPad. Moreover, one of the interesting things they looked at was whether there would be a difference in narrative engagement on the iPad versus on paper between fiction and non-fiction. What they wanted to find out most of all, however, was whether the medium would affect the readers’ transportation
and perhaps, in relation to that, empathy. (I have mentioned in Part One that there is a fairly strongly empirically established link of transportation as a prerequisite for empathy.) They use Busselle & Bilandzic's (2009) Narrative Engagement Scale to measure the extent to which their readers were engaged with the texts. Furthermore, they measured interface interference for both media, and they measured prior experience with tablet technology. They found that, for readers who were told they were reading fiction, the medium made no difference — however, iPad readers who were told they were reading non-fiction reported lower levels of sympathy (but not empathy) (163). This fiction / non-fiction divide (where the medium had effect on the non-fiction narrative experience but not on the fiction narrative experience) returns also for transportation and narrative coherence (161). Furthermore, while iPad users reported more awkwardness in handling the medium (haptic dissonance) and also had trouble to determine their place in the text (cognitive dissonance), they could guess as well as paper users what the total text length was (160). Finally, screen participants who had prior experience with tablet technology still reported more awkwardness with the medium than paper participants (171). Overall, while there are clear differences in experience between paper and screen, and the screen appears to be more awkward and confusing than paper, the narrative reading experience was not much different for the fiction readers. Their results for the non-fiction readers definitely ask for more intermedial research.

So far, it appears that the differences in test results that come from on screen versus on paper learning experiment can be largely explained by a lack of training. That is, when it concerns comprehension.

When it concerns entertainment reading, Mangen & Kuiken found that there is actually no measurable negative effect on the narrative reading experience — although it was clear that the difference in materiality and substrate of the iPad did cause a different experience. However, as they say themselves, there are many reasons for their results to not be entirely generalizable either: they used only one type of screen, and they did not measure separately whether awkwardness with the medium was caused by its materiality or by its manipulation.
2. Variables in Empirical SvPR Research

The studies that have been discussed in the above Brief Survey used a number of different variables that were (or were not) taken into account during the empirical experiments. Here, I wish to look more specifically at these particular variables. Again, the majority of these are taken from experiments that concern SvPR for comprehension.

By measuring a variable, we can determine to what extent that variable influences a reader’s narrative reading experience. In empirical SvP research, we want to know which variable has the largest influence on their scores. By looking at which variables correlate consistently with all participants’ scores, we can determine whether the medium has a large impact or not, relative to the influence of the other measured variables. The more variables are measured, the more accurately this can be determined; but more variables also means that there is more room for error and confusion.

Screen variables
Reading off a screen requires more cognitive effort than reading off paper (Van der Weel 2015, Mangen et al. 2013, Noyes & Garland 2003). The preference of many people to print long and/or difficult texts before reading this may be a symptom of this increased cognitive load (Wu & Chen 2011, Nicholas & Lewis 2008, Leyva 2003). A number of reasons is offered for this cognitive load — each of these could be considered a variable.

Firstly, and most importantly, navigation. Dillon has argued as early as 1992 that it is the single greatest difficulty of electronic text, something that most researchers in his time already agreed upon (13). Research since then (Baccino & Pynte 1994, Piolat et al. 1997, Kintsch 1998, Cataldo & Oakhill 2000) has supported the importance of having a 3-dimensional mental representation of text in order to know ‘where you are’ in that text. The fixity and materiality of print text makes the creation of this mental representation easier than the 2-dimensional screen. Mangen et al. (2013) emphasize that this means that screen users have no access (and thereby cannot create a spatial mental representation) of the text in its entirety (66). Without an overview, you can naturally not say where you is within that overview. A number of experiments on screen reading report that users prefer switching to an entire next text (page) with one action (pressing a key or clicking) to scrolling through a text. (The codex over the scroll!)

Secondly, multitasking. The screen is a space wherein the user often performs more than one action simultaneously. The user does not finish one task before moving to the next but navigates between them. In the case of reading, this means that reading becomes a fragmented activity. Indeed, a number of studies have shown the cognitive cost that the easy multitasking of the screen entails (Bowman et al. 2010; Fox et al. 2009, Kirschner & Karpinski, 2010). Due to screen navigation, multitasking on screen is a different experience from multitasking with material tasks. On screen, different windows with different applications stack without changing the materiality of the screen. If an application is shown full-screen, a user would not be able to see as easily as with e.g. a stack of books how many applications are “behind” or “beside” it (very 3-dimensional spatial terms for the 2-dimensional screen). I will return to the habitual aspects and effects of multitasking in the second section of this chapter.

Thirdly, screen quality, which has a number of ‘sub-variables’. This is a difficult variable because screens have developed and improved very rapidly over the past twenty years. Empirical
research on screen reading thus becomes outdated with every development in screen quality. Exactly because of the vast and fast increase in screen quality, it is difficult to do comparison studies between different kinds of screens. This becomes particularly important with the introduction of the e-ink screen in e-readers such as Kindle which — unlike all other screens — has no backlight. Research that has been done to compare computer screens (those with backlight) with e-ink and paper have found that computer screens cause ‘computer vision syndrome’. It is argued that this is caused because computer screens stimulate different behavior of our eyes than e-ink and paper: we blink less, and our eyes focus differently, causing more strain (Rosenfield 2011, Benedetto et al. 2013).

Screen quality variables such as (fluctuating) backlight, Retina, and mostly outdates variables such as refresh rate and anti-aliasing (outdated because most screens do not have a noticeable refresh rate and all screens have anti-aliasing), may indeed have an influence on the cognitive load. As the quality of the screen decreases, more cognitive effort is required of a reader. Under screen quality, Dillon’s 1992 overview also involves the reader’s orientation, visual angle, aspect ratio, dynamics, image polarity, and display characteristics. Mangen et al.’s study also adds levels of contrast and fluctuating luminance to this list. While a number of these screen variables is not yet outdated, it would be good to have a standard, current list of variables that need to be measured in SvP research.

Increased cognitive effort can be seen evidenced in computer vision syndrome but also in Kerr & Symons’ (2006) experiment that found that screen reading takes longer than paper reading, at least for children. Much research done in the 1980s agrees with this (Kak 1981, Muter et al. 1982, Wright & Lickorish 1983, Gould & Grischkowsky 1984, Smedshammar et al. 1989). However, screens have developed much since then, and as much since Kerr & Symon’s 2006 study. More recent work such as Ackerman & Goldsmith’s 2011 experiment which compared on paper learning and on screen learning suggests that, if a maximum time is set for reading, paper and screen readers perform equally well in comprehension tests on the reading. Kurniawan et al. (2003) conclude their empirical experiment on reading speed with the suggestion to change the lay-out of electronic texts in order to solve the issue. Perhaps this means that the difference in reading speed between screen and paper can be diminished when the attempt to emulate paper on screen is set aside in order to find the screen’s own ideal text typography and design. More on this in the section on text variables below. For the purpose of this thesis, we should wonder whether a lower reading speed on screen impedes (or is a signal of a disruption) of the narrative reading experience.

Reader variables
To reiterate my stance about the reader: there is no the reader. Not only in a ‘everyone is unique’ way but because even readers who may have similar reading habits (in terms of what and how they read) may engage with different (paper and screen-based) media in very different ways. Furthermore, even a reader is not a consistent factor: her circumstances at the moment of reading the book influence the reading. This is the most complicated out of control variable because, while participants of an experiment could be selected on their reading habits, they cannot be easily selected on their mood or day-to-day circumstance.

So how could we justify a quantitative method to measure this highly qualitative experience? By taking into account as many reader variables as possible: both long-term variables (such as gender and level of education), and short-term variables (such as mood and age).
Furthermore, two readers may have the same reading habits but very different personalities. As carefully noted by Koopman & Hakemulder (2015) a reader may be predisposed with a great (or small) amount of empathy, or have a strong (or weak) visual imagination (86). To what extent do a reader’s trait emotions influence state emotions in response to narrative, and vice versa? All of these can be turned into measurable variables — although, to measure as carefully as possible, these variables should be measured repeatedly over a longer period of time. Which is something most quantitative research — definitely quantitative research on SvPR — does not do.

Apart from this, there may be the following variables to consider: a reader’s gender, age, (as relative to their) level of education, experience with reading long texts, experience with reading literary texts, and experience with screen reading. Dillon’s 1992 survey did not reveal age differences in research on screen versus paper reading (21) and yet you would expect there to be a difference today, when we compare the digital natives’ reading habits to digital immigrants’ reading habits and abilities, particularly on screen.3

When we consider the narrative reading experience from the angle of a reader, there is thus a myriad of variables that influence that experience before a reader even sets her eyes on a screen or paper to read. These reader variables continue to influence the reading during the entire reading process: before, during, and after reading. It is therefore paramount that these variables are taken into account when the narrative reading experience is measured, especially when different media are involved.

**Text variables: content and typography**

Among text variables, we can distinguish between two levels of analysis: the content of the text, and the typography of the text. Content variables that we would look at within the context of this thesis are e.g. narrativity and literariness, characters and plot. When looking at typography, we will consider e.g. text size and line size, amount of columns.

I have previously discussed the difficulty of strictly separating narrative and literature. I have also suggested that literariness can be as much a quantitative text feature as narrativity (as has been suggested by Ryan): a text can more or less narrative, and more or less literary. Text variables that are often associated with literariness are elaborate figures of speech and metaphor and similar linguistic embellishments. Stream of consciousness, as a fluctuating point of view, is also typically literary in its primary focus on characters rather than on action. The most important features that distinguish a narrative text from other types of text are characters, plot, story world, and (clear) focalization. Classically “non-narrative” texts, from newspaper articles and recipes to blog posts and speeches, may have some of these features — and thus they are in Ryan’s and my view a little narrative (with narrative as an adjective). Fictional and non-fictional novels and poems often have all or many narrative and/or literary features.

Empirical research on narratives and their effects, and on literariness, is rare within literary studies. The variables that have been proposed in such research are usually related to foregrounding (Koopman & Hakemulder 2014, Kuipers & Miall 2011), the link between narrative and empathy (Koopman & Hakemulder 2014, Keen 2006, Mar & Oatley 2008, Mason & Just

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3 I use these terms to distinguish between those who grow up with the digital (from the 1980s onwards, but particularly from 1990s onwards) and those who did not grow up with the digital and who will likely exert more effort to adapt to it.
2009), and how readers respond to fiction versus non-fiction and how to deal with narrative information when it is fictional (Gerrig 1993, Gerrig & Rapp 2004).

We will now move on to typographical text variables. Much research has been done on this solely on the paper medium; some has been done on screen; and some has been done to compare paper and screen. The greatest body of research available, which is on paper reading, can thus not necessarily be directly applied to screen reading. As Dillon phrases it, “the relationship of much of the findings to reading continuous text from screens is not clear” (19). We could say the same when it concerns different kinds of screens, of course. The following typographical variables may influence screen reading, in any case. Dyson (2004) lists an astounding number of studies that look at: line length, columns, text size, window size, interlinear spacing, and scrolling. The most important thing, from a typographical, design and perhaps also a cognitive perspective, is that these variables should not be considered or treated independently: they stand in relation to each other. This means that if one is adjusted, others should be adjusted too in order “to maintain constant relationships between them” (379). Of course, the problem is that we do not yet know (definitely not for screens) what the perfect relationship between these features is to ensure the best reading. And then, if we get close to finding good relationships between these features, we should also start to look at whether different types of reading strategies are better served by different types of typography (and different relations between typographical variables), and perhaps even by different types of screens. While it may appear that the different typographies of e.g. novels and newspapers already show this, it can be taken much further. Dyson suggests, for instance, that proofreading is done best when only sentences or single paragraphs are displayed on screen (2004: 388).

The difficulty with the changing of these variables is that the experiments Dyson has included generally only measured one type of effect (e.g. only reading speed, or only comprehension). This means that you still do not know whether there is perhaps a trade-off between the e.g. reading speed and comprehension when variables are changed.

A difficulty with typographical variables is that the most ‘efficient’ combination of text variables does not always form a reader’s preferred typography. Dyson & Kipping (1998) found for instance that, even though a medium line length of 55 characters was considered easiest to read by participants, it was not read the fastest (384). A reader’s experience of reading a text thus does not always match the ‘results’ of reading (whether they are related to reading speed or comprehension). Which is another argument as to why results in comprehension studies do not necessarily predict a positive or negative (narrative) reading experience.

Finally, Dillon’s 1992 critique of SvPR research in his time is still relevant for all variables and for all SvPR research today: researchers “seem to concern themselves with the control of so many variables that the resulting experimental task bears little resemblance to the activities most of us routinely perform under the banner ‘reading’” (31). Contemporary SvPR experiments still take place in classroom environments with unfamiliar screens. This is one thing that this thesis’ experimental pilot will attempt to do differently.
3. Hypotheses

The remainder of this part is concerned with an empirical experimental pilot to measure the natural narrative reading experience on screen versus on paper. What follows are the premises, set-up, methodology and results.

The following hypotheses for the experiment have been chosen as they address the most urgent questions about the current state of enjoyable narrative reading on screen. What we want to know first and foremost is whether the screen has effect on the narrative reading experience, what kind of effect that may be, and why.

1. Participants who read on screen have lower scores on the story world absorption scale

This hypothesis looks at the screen as substrate.

Both Part One and the empirical research in Part Two have mostly suggested that the screen causes a disruption of the habituated narrative reading experience. We should therefore expect to see this disruption in how absorbed readers are. Within this hypothesis, we are particularly interested to see whether emotional engagement is affected, since — as has been previously established — practicing our empathy is one of narratives’ great benefits.

2. Participants who read on screen more frequently report distraction and will have lower scores on attention

This hypothesis also takes the screen as medium into account

Even though our reading experience may be disrupted by the awkwardness of dealing with the screen, it might not be experienced strongly by the readers themselves, since they will be asked to read on a screen they frequently use for reading. Nevertheless, apart from the medium’s materiality, there are also other elements that could cause more distraction on the screen medium than on the paper medium. We may therefore expect that screen readers report more distractions, and that they will (therefore also) have lower scores on the experiential state ‘attention’, which is part of the SWAS.
4. Methodology

Aims
This experiment was designed in order to gain some understanding of the difference in narrative experience between paper and screen. However, since the amount of participants was very low, this experiment may also (and perhaps better) be considered the first step in the direction of measuring the narrative reading experience across media in the reader’s native reading environment.

When faced with the same story, how does one medium give a different narrative experience of that story than another, when no attempt has been made to translate the story to either media’s optimal conditions? This experiment thus does not aim to find out the potential of paper and screen to deliver similar or ‘equal’ narrative experiences; it aims to find out what the current state of affairs is when both media display the same story, visually in the same way.

Participants
The participants were 26 students from the bachelor and master program English Language & Culture at the University of Groningen. The native language of the majority of these students is Dutch, although there are also native English speakers among them. In any case, their English proficiency is high enough to understand the story well. The University of Groningen’s English Language & Culture program is a mixed program where all student take both literature and linguistics classes; all students are thus familiar with looking at texts and analyzing texts in different ways. Even if they may have different (levels of) experience with literature and narratives, the content and habits of their reading has been partially homogenized by following the same courses and reading the same literature. This makes it a suitable group for the pilot experiment, since the participants were split into two groups which needed to be as similar as possible to prevent within-group variance to influence the results.

Design
This experiment was both explorative and descriptive: it wished to explore the narrative reading experience as something that may differ across media, and as something that can be measured. It was designed as a means to find a way to describe the possible differences in measurable terms. In order to do this, a between-subjects design was employed. One group read a story on screen, while the other group read that same story on paper. Both groups received the same online questionnaires.

Materials
The participants worked with the following materials: 1). (medium-specific) instructions; 2). chapter 33 from Stephen Hall’s The Raw Shark Texts; 3). a pre-reading ‘mood meter’ which asked about their mood before reading; 4). an online questionnaire about their narrative experience of the story, their medium preferences, and how much they read (on different media and substrates).

The instructions told the participants to turn off all possible distractions (e.g. internet or phone) and to read the story for pleasure — not for academic or analytical purposes. The

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4 While an earlier design of this experiment included another very different story — action-oriented — the final experiment is based on only one story. This choice was made to prevent the two stories from influencing each other’s evoked experience. The tragic, contemplative story might make it more difficult to be immersed in an action-packed story and vice versa.
instructions emphasized that they would not be tested on their comprehension or interpretation of the story, but that they would receive questions about their reading experience.

Before reading, participants were referred to an online page with two large buttons: one linked to a ‘pre-reading mood meter’ (on SurveyMonkey.com) and one linked to the questionnaire (also on SurveyMonkey), which was to be filled out after reading. The mood meter consisted of three items which participants had to rate on a 6-point scale from ‘strongly disagree’ to ‘strongly agree’: “I am happy”, “I don’t have a particularly strong mood right now” and “I am sad”.

The text they had to read was a chapter from The Raw Shark Texts by Stephen Hall. The chapter relays the experiences of Eric who has loses his girlfriend Clio during their holiday in Greece due to a lethal scuba diving incident. It fragmentarily describes his experience of loss, memories of the holiday, and visits from her and his own parents. Overall, it is a very emotional chapter which moves back and forth in time, place and atmosphere. For instance, the narrator remembers fragments of his and Clio’s blissful holiday in Greece, the moment the police came to tell him what happened, returning home alone, visits and phone calls from Clio’s parents and his own parents, and the way he deals with his loss. The chapter is rounded off with Eric throwing away all of Clio’s things, which he had carefully kept in place for months. Among these things are the underwater photos she made during her fatal dive. The chapter ends with Eric’s heartfelt apology to the deceased Clio, as he regrets throwing away the photos she wanted to make and see so badly.

See Appendix 2 for the chapter, which is only three pages long. While it is a chapter from a book, it works well as a standalone story as it does not refer to the book’s other events.

The questionnaire consists of three parts: firstly, a post-reading mood meter. Secondly, a list of items about the readers’ experience of the story. Thirdly, more general questions about their experience with and preference for reading narratives, and reading on different media. The experience part consists of Kuijpers et al.’s SWAS. It measures a number of experiential states and their effects (see Measures). See Appendix 1 for the full questionnaire.

**Measures**

I will begin with a brief description of what was measured, and will then justify the choice for those measures, and the choice to not measure other important variables. These (lack of) measures are mostly determined by the size of the experiment, and by the fact that it is merely a pilot.

To begin with, all items were measured using a 6-point scale that went from “Strongly disagree” to “Strongly agree”. This was to ensure that participants really thought about the (lack of) intensity of their experience and were not able to opt for a neutral stance. Furthermore, participants had to rate all items in order to complete the questionnaire. This ensured that there were no incomplete questionnaires.

**Mood meter**

The mood meter measured the participants’ mood before and after reading. This was to see to what extent the story had an impact on their state emotion, i.e. the mood or ‘state’ they were in at that moment. Their happiness, sadness, and ‘non-emotion’ were measured. “Non-emotion before reading” asked whether they felt any mood strongly at the moment, and in “non-emotion after” they were asked whether they felt that the story had changed their mood.
SWAS
To measure the narrative reading experience, the experiment made use of the story world absorption scale developed by Kuijpers et al. in their 2014 “Exploring Absorbing Reading Experiences: Developing and Validating a Self-Report Scale to Measure Story World Absorption”. The absorption scale contains 18 items which measure the experiential states attention, emotional engagement, transportation and mental imagery. Kuijpers et al. selected these 18 items on the basis of three consecutive studies which filtered the ineffective items and helped them to sharpen the formulation of the (unclear) items.

General measures
An additional 4 items in my experiment’s questionnaire measured enjoyment. Kuijpers et al. added additional items to measure impact, but this to me seems a more elusive and long-term effect, and something that would be difficult to measure in a questionnaire that comes right after such a short story.

The following measures were all taken to account for other kinds of interference which were not substrate-specific. Comprehension was measured with 3 items to ensure that a lower scores on the SWAS due to lack of comprehension would be controlled for. Participants were asked about their current reading environment: where they read the story and in what position they read the story. If they read on screen, they were asked for the screen specifications. Participants were asked whether they had been disturbed during reading and, if so, by what. Furthermore, the participants were asked to report on how (much) they read in general: whether they had read many long narratives, whether they read much on screen (this will be referred to as training), and whether they preferred to read long texts on screen or not. Finally, the participants’ age and gender were asked.

Justifying what is measured
This experiment focused on variables that are most closely related to 1). measurable narrative reading experience and 2). medium vs. substrate. The experiment was designed to establish whether there is a correlation between a difference in narrative experience when there is a difference in medium. The experiential variables, or rather states, that were measured fall under the SWAS, story world absorption scale. This scale measures to what extent story world absorption can predict the level of enjoyment and/or impact that a reader derives from a story. The SWAS is a great tool for this experiment because it has been thoroughly tested and has turned out to be a more nuanced measuring tool for experiential states than several others (Kuijpers et al. 116-9). It measures attention, emotional engagement, transportation and mental imagery.

To control whether these variables were in tune with the readers’ overall experience, items were added to measure comprehension (in case they did not understand the story) and enjoyment (in case they simply did not like the story).

The questionnaire also contained items on the readers’ environment, mood, and training in reading. This mix of short-term and long-term measures was chosen to see what could explain their SWAS scores in case there would be no clear distinction between the two groups on the basis of medium; and to explain possible outliers (participants with relatively abnormal scores).

Justifying what is not measured
I have repeatedly criticized empirical research on SvPR for not measuring enough variables. My critique was that, when you measure only a few variables, you do not know whether any trade-offs
between variables have taken place: e.g. an experiment found that readers read more slowly on screen — but it has not measured whether that impacted comprehension (or the other way around). To listen to that critique in this experiment means that we would have to find out the relation between the different measures of experiential states (e.g. high mental imagery) and e.g. reading speed, comprehension and retention. After all, we have seen in the Brief Survey that a more positive reader experience — e.g. a reader saying she enjoys reading better with line height 2.5 than 1.5 — does not always mean better results.

However, this experiment does not fall in the same line with the empirical research that has been discussed. While the discussed experiments measure skills, this experiment is exclusively concerned with a more or less positive or negative reading experience. I would not describe the extent to which a reader is capable of a narrative experience a skill, but rather a strong or weak habit, which depends on his or her reading diet and frequency. Therefore, comprehension, retention and reading speed are not measured.

Furthermore, the experiment will not measure influence of typography. Since, unfortunately, the ideal relationships between typographic elements have not yet been determined per substrate — let alone per text genre or type of reading, this experiment will give the same typographical format to the story on screen as on paper. The paper story will simply be a printed version of the screen story. It would be extremely interesting — and it is necessary — to experiment with the influence of typography on screen and paper narrative reading experience but that will not be possible here.

Part Two has also discussed screen variables in detail, and which elements of the screen may affect reading experiences in some way or the other — think of brightness, size, flicker, quality. These elements will not be measured either because this experiment is not about the impact of these specific screen features. It is simply about a screen experience versus a paper experience. While e-ink screens and tablets were banned from the experiment, no further restrictions are enforced. The participants were asked to read on whichever screen they read much. Whatever the specifics of this screen were, it is expected that, since the participant regularly reads off this screen, he or she will be habituated to the screen specifics.

This stands in contrast with classroom experiments. Readers in these experiments are not used to reading much on those specific screens, and — on the basis of the results in Part Two that showed training with a screen improved performance — it may be assumed that they perform and experience differently on such screens than on their own screens. This would give paper an unfair advantage over screen, since we are much more accustomed to paper reading and would therefore be less hindered by a familiar page format on familiar paper than by a familiar page format on an unfamiliar screen.

Finally, if the medium screen versus paper has a significant impact on the narrative reading experience, the more detailed differences between the participants’ screens should not matter statistically. The screen specifications become relevant only when we have some idea about whether the medium generally has a significant impact on the narrative reading experience or not.

Similarly, the reader’s environment has not been standardized. This is perhaps the most difficult point and choice since a standardized environment is one of the hallmarks of empirical research (in literary studies). This kind of research is almost always performed in a classroom or university computer room setting: not a natural setting for reading. In the context of taking a comprehension test, it is imaginable that the classroom environment is suitable. However, when considering a reading experience for pleasure, it is not. Therefore, I have again chosen for the
habituated, ‘native’ reading circumstances of the reader: participants were asked to read in a place where they felt comfortable and where they usually did their reading.

Several of these choices make this experiment notably different from other literary empirical research. Van Peer et al. (2012) rightly argue that “we need manipulation of the environment, measurement of input and outcome, and to control as many variables as possible“ (89). By not measuring a number of these variables (reading speed, comprehension, screen specifics), and by leaving a number of variables uncontrolled (screen, environment), I chose to break some fundamental rules of empirical research.

In the context of this thesis, this rule-breaking is justified. The narrative reading experience is one of the most intimate experiences a person can have on their own. A reader feels as if she shares something with others, even though those others are fictitious and only become visible and embodied in her own mind. This experience cannot be easily replicated in a laboratory or classroom environment: a reader would likely feel inhibited by others readers in the vicinity, and by the formal setting. Moreover, a particularly emotional story has been chosen as ground for the questionnaire so as to attempt to trigger strong emotions. A standardization and formalization of the environment and screens would form an obstacle for a reader to truly get into the story, which would obstruct absorption. Finally, since this is a pilot study, it is a great opportunity to experiment with the standard formats to figure out to what extent they can be stretched.

Procedure
The e-mail addresses and home addresses of participants were gathered through Facebook and in response to an e-mail to Bachelor and Master students in the department English Language & Culture. The participants were randomly divided into two groups: a screen group and a paper group. One group received the package of instructions and story by e-mail, and the other group received the package on their home address. The instructions indicated to the participants to take fifteen to twenty minutes to read the story and to fill out the questionnaire. The participants were asked to, during that time, turn off all devices (except the one they read off). They were asked not to print the story if they received it by e-mail; and neither to read it on an e-ink screen. Both groups were asked to read the story as they would read any story for pleasure, in the position and off the screen (if screen group) that they would usually read off.

The location was thus at a place of their choosing, where they were comfortable and where they would not be disturbed. The materials were distributed to all participants at roughly the same time (in a 2 day span) and the participants received a deadline. Since the questionnaires were anonymous, all participants received two reminders to read the story and fill out the questionnaire before the deadline.

Appendix 1 contains all the practical details of the experiment.
5. Results

To begin with, most of the significant findings could not be explained by the difference in medium and/or substrate. Other factors — such as whether they thought they read very much in general — had more (significant) influence on the narrative reading experience that was reported by the participants. I will begin by looking at the significant findings, then will move on the findings that were not significant (e.g. factors that did not influence each other, even though that might have been expected on the basis of our theoretical Part One). I will finish by reviewing the hypotheses.

Significant findings

Self-reported comprehension was higher on screen than on paper (see appendix 3.1)

Three items were used to measure the extent to which participants felt they understood the story well. These items were included mostly to ensure that variety in absorption was not due to comprehension difficulties but due to other factors. Comprehension overall was very high, however, and for screen readers even significantly higher than for paper readers. While this may seem surprising since we might naturally associate the screen with less comprehension, it may have two different explanations. Both of these explanations have empirical grounding but nevertheless contradict each other. The first comes from Kerr & Symons (2006) whose reading experiment with children showed that the participants who read on screen, read slower, but also retained more and understood the text better.

The second explanation comes from Ackerman & Goldsmith (2011) and Lauterman & Ackerman (2014), who have argued that reading on screen (rather than paper) causes overconfidence: it makes the reader feel that he or she has understood the text faster than when the reader would be reading off paper. The screen participants could thus have thought they understood the text better than they actually did.

Since comprehension was self-reported but not tested, and since their reading times were not measured, it cannot verified for this experiment which of the two explanations is correct in this case. Furthermore, the two explanations may be age and/or experience-specific. The overconfidence may be explained by something that young children do not have yet: a built-up habit of reading short, easy texts on screen. It might be that young children read slower and as well or better on screen (because they take more time) whereas more experienced readers feel they read better on screen because the screen ‘always’ displays easy texts. In case the participant overestimated his or her comprehension rather than correctly gauged it, which is also possible — Ackerman & Goldsmith provide an explanation for this.

Emotional engagement, mental imagery and training predicted enjoyment (3.2)

I will return in more detail to my hypotheses later but let me use hypothesis 1 to illustrate this finding. I had expected that the participants’ higher or lower rating on the items of the story world absorption scale could be predicted by medium, and that screen would show lower scores. An effect if this likely would have been that enjoyment of screen readers also went down, since the SWAS is a fairly accurate predictor of enjoyment (Kuijpers et al. 2014).

It was clear for this group of participants, however, that other variables — and not the reading media and/or substrates — predicted enjoyment. Of the SWAS, the significant predictors were emotional engagement at a strong first place, followed by mental imagery and training. The link between the strength of emotional engagement in response to literature (and film) and enjoyment has been established, but the influence of mental imagery comes as a surprise. It
would mean that if a participant has a better visual image of the story — of the protagonist, of the story world — that he or she enjoys the story more. This is not to say that the SWAS as a whole did not predict enjoyment: the experiment confirmed the strong correlation between absorption (so the entirety of the SWAS) and enjoyment. Looking at the individual items, however, emotion and mental imagery were stronger predictors of enjoyment than attention and transportation. The final predictor of enjoyment was the participants’ self-reported training (how much they felt they read in general). The item simply stated “I have much experience with reading long narratives”. Participants who rated their own training as high, enjoyed the story more. I will return below to the possible significance of the fact that these three items predicted enjoyment while the medium did not.

Attention can be predicted by transportation and training (3.3)

This finding, too, shows that other variables than the medium — as hypothesis 2 stated — could predict attention. I expected that the screen medium would increase distraction and (thereby) decrease attention. However, not the medium but transportation and, again, experience with reading long narratives were the predictors. For this group of participants — the whole pool — it thus appears that attention is determined by the story itself and by their own experience rather than by the medium they happen to read the story on. Again, then, screen is not the or even a disruptive variable.

Furthermore, looking at attention the other way around: as a variable, it can be predicted significantly by enjoyment. If a participant really enjoyed the story, his or her attention for the story was significantly higher than for other participants. This was measured with items such as “I was reading in such a concentrated matter that I had forgotten the world around me”. This ‘forgetting of the world’ includes the medium on which a reader reads — a reader's focus goes ‘through’ it, as I have discussed in Part One.

Supplementary analyses

Mood strength and mood difference did not predict enjoyment (3.4)

One of the findings was that emotional engagement (which was measured with items such as “I felt connected to the main character”) was the strongest predictor of enjoyment. This emotional engagement was thus based within the narrative. This experiment also measured the readers’ own emotions before and after reading the story by asking them to rate the items “I feel happy” and “I feel sad”. While the story indeed caused a small decrease in happiness and a small increase in sadness, the amount of emotion that was generated did not correlate with the amount of enjoyment a participant reported. Participants who reported to be much more sad after reading than before did not necessarily also enjoy the story much more. Since theory on the enjoyment of (negative) emotions has established that more emotion causes more enjoyment (Oliver 1993), this is somewhat unexpected. We may look at the issue by distinguishing very strictly between narrative emotions and state and/or trait empathy. The emotional engagement that was measured with the SWAS measured narrative emotions, particularly narrative empathy and sympathy. However, the mood meter strictly measured the participants’ own emotions. While their emotional state was thus influenced by their narrative emotions (the emotions they felt purely in response to the narrative), these emotions are not the same. (An elaboration within the context of theories on the enjoyment of negative emotions would be very interesting with regard to trait emotion, state emotion and narrative emotion.)
Mood strength and mood difference could not be predicted by reading medium (3.5)
In the same way that I expected that the SWAS scores could be predicted by reading medium, I expected that there would be a stronger change in mood (decrease in happiness and increase in sadness) for paper readers than for screen readers. If indeed narrative emotion would influence state emotion, and if one medium generates more narrative emotion than another medium, that difference should show. It did not, which again indicates that the medium did not significantly influence other variables such as emotional engagement, mental imagery and the participants’ experience with reading long narratives.

Distraction did not influence absorption, enjoyment or comprehension (3.6)
Hypothesis 2 stated that the participants who read off screen would be more distracted and would score lower on attention. This was not the case (see table 4 and 5 in the appendix). In fact, whether participants were distracted or not, regardless of medium, their absorption, enjoyment or comprehension did not correlate in any way with whether they were distracted. Again, then, other variables were stronger than both distraction and medium. It might also be that, since these are all experienced readers, they are skilled at ‘getting back into’ a story. Moreover, nearly all distractions were minor (i.e. of very short durance and not emotionally impactful) and they thus did not change the mood or mindset of the reader.
6. Discussion

To begin with, both hypotheses assume that the difference in reading media has some kind of impact on the measurable reading experience. The data that has been gathered in this experiment did not show any influence of one or the other medium (paper or screen). Other variables such as emotional engagement and the participants’ training in reading did have an impact. What does this mean for the hypotheses?

1. The screen lowers participants’ scores on the story world absorption scale

The experiment showed that the screen medium did not significantly lower participants’ scores on the SWAS. In the end, we are interested to know whether the medium negatively affects the enjoyability of the narrative reading experience. Just over half of the participants claimed that reading the story on a different medium would indeed change their reading experience, and the majority (strongly) agreed that they preferred to read print books to e-books for entertainment. However, the data shows that neither the screen readers’ absorption nor enjoyment was lower due to their reading off a different medium.

Despite their general preferences, a different reading experience thus shows to not necessarily be a more negative or less engaged one. This experiment showed that, for this group of participants, the experience of reading for fun on screen can have as much depth (in terms of absorption) as this same reading on paper. I need to stress that this is true for this group, as it is likely that the specificity of this group makes it so that the reading experience was rated high on the SWAS.

These participants all considered themselves to be avid to very avid readers in general. They have all been required to read extensively for their studies, and since they were drawn to the study English in the first place, it is likely that they also read stories in their spare time. Due to their high level reading skills, and probably due to their level of habituation in reading, it may be that the change in medium is not ‘disruptive’ enough to actually change their measurable reading experience. Simply put: they are so good at getting into a story that it does not matter what they read the story on.

2. The screen negatively increases distraction and lowers attention

On the basis of Mangen & Kuiken's 2014 “Lost in an iPad”, I expected that — despite the experiment's instructions to cancel all connections — the screen medium would increase distraction and (thereby) lower attention as a dimension of the SWAS. Mangen & Kuiken included measures in their experiment to check for interface interference.

Their results shows that participants indeed found the iPad substrate awkward to handle, even those who had (much) previous experience (160). However, like Mangen & Kuiken, I also found in my experiment that the screen medium did not actually have a measurable negative or disruptive effect on the narrative reading experience. Even though this experiment did not use the same elaborate measures as Mangen & Kuiken to account of distractions, it found that the screen medium did not cause more distractions than paper. Furthermore, the screen in itself also did not cause lower scores of the attention measure.

This experiment shows that, for this group of participants, the screen medium does not change the depth and enjoyability of the narrative reading experience in comparison to the print medium.
The experiment sought to reproduce the natural reading experience as much as possible by asking participants to read at home, in a safe environment, a space in which they are used to do this kind of reading. Participants were also asked to ensure that they would not be disturbed. This was done in an attempt to limit the amount of interference.

However, in the first part of this thesis I have theorized that a large part of the ‘problem’ with the screen medium is likely the amount of interference it gives due to its inherent distractions. By asking participants to cut the internet connection and to not be disturbed, I attempted to surgically remove that part of the ‘natural reading experience on screen’. In a non-experimental context, screen readers might have interrupted their reading in a number of different ways: an e-mail might have popped up, or they might have thought to quickly check Facebook, or they might have put on different music on Spotify because it fit the mood of the story better. While this experiment thus shows that, for these experienced readers, the mere aspect of screen versus paper did not change the measurable reading experience, their reading experience with the screen medium, including all of its connotations and connections, might still be different.

That is incredibly difficult to measure, though. The only way to do this would be to record the reader’s screen activities. However, if a reader would be aware of being observed, or even a chance of being observed, his or her screen-based behavior might change. Attempting to do this entirely without a participants’ knowledge would of course be ethically objectionable.

Perhaps it is foolish to try to make the screen medium a substrate within an experimental or theoretical context — because that is what we try to attempt when we remove all other modalities, media and connections from the screen. Excluding the possibility of an e-reader that has absolutely no single other possibility than to flip pages of e-books, all modern e-readers, tablets, laptops and computers (i.e. all these screens) simply aren’t single-function substrates.

**Shortcomings**

**Participants**

First and foremost, the pool of participants was not large enough to allow any generalizations. It had 28 participants, and would have needed at least 40 (20 per cell). We could suggest that what applies to this group, applies to many students of English (at least at the University of Groningen) but definitely not to other groups of readers.

The screen group had two members less than the paper group, and ‘lost’ another two members during the data analysis as it had two outliers. Furthermore, the paper group had relatively less within-group variance than the paper group. This would suggest that the groups were not entirely homogenous.

Finally, the ‘danger’ of allowing participants to do the experiment in a natural environment became clear as a third of the participants was disturbed while reading by preventable things (e.g. people entering the room). The instructions strongly emphasized to avoid any possible distractions, among which any internet connections, and to ask house mates to not disturb them for a whole. Nevertheless, some participants confirmed that they were distracted by online messages and/or people entering the room. This is something that occurred with equal measure in both groups. You could even argue that distractions are part of the contemporary natural reading experience, even if a reader reads on paper. Since the disturbances did not consistently correlate with different SWAS scores, enjoyment, comprehension or medium, they could be deemed acceptable within this experiment.

Future experiments, however, should find a way to be stricter with its participants. Starting with a much larger sample size and filtering out those participants that did not follow particular sections
of the instructions would be a suitable solution. Furthermore, it would be good to repeat this experiment with very different groups of people with different educational backgrounds and different amounts of training with 1) reading and 2) screens. This experiment has shown that, for this group, primarily their training ‘overcame’ (if it was a hurdle, which the data does not show) any possible medium difficulties. Furthermore, even though the majority of participants indicated that they preferred to print longer texts, they are all necessarily screen savvy, because these participants are required to write and research (many) academic papers on screen. There are certainly other groups that have less training with screens and reading. In order to gain a comprehensive, accurate image of the state of the narrative experience of contemporary screen reading for entertainment, such groups also need to be investigated.

**Story**

Due to the experimental nature of the pilot, it was necessary for the story to be short. However, to really understand the state of the narrative experience of contemporary screen reading for entertainment, longer narratives are required. Preferably, multiple narratives with different foci — e.g. contemplative vs. action-based — are used in order to find out whether different media cater better to particular types of stories.

**Substrates/media**

I briefly mentioned above that the attempt to ‘abstract’ the screen from a medium into a substrate may be a foolish endeavour. If we really want to measure the natural reading experience — which was the objective of this experiment — we should involve all media in their ‘natural’ state. This means: use actual books (not printed texts on loose sheets of paper), e-ink e-readers, e-readers, tablets, smartphones, laptops and computer screens. Other than what I attempted to do with the experiment, we should not measure or even consider the screen as a substrate unless this particular screen really has no other functionality than to display text.

**Procedure**

In addition to a longer story, a long-term investigation would also be desirable. It would be interesting to require a participant to read a novel and fill out questionnaires at several points during reading. After all, reading a novel is often not a continuous activity since we do not have hours of leisure time at once. Such disruptions would therefore not be necessarily different from natural reading, except that they would require the reader to be (more) self-reflexive about their reading experience.

Furthermore, it would be interesting to see the long-term experiential effects of narrative reading. Apart from enjoyment, this would allow impact to be measured. Does a medium influence whether an impression of a story lasts longer or not? Or maybe only part of an impression of a story: visual, emotional, or embodied?
CONCLUSION

Books to the ceiling,
Books to the sky,
My pile of books is a mile high.
How I love them! How I need them!
I'll have a long beard by the time I read them.

(Arnold Lobel)

We read books to find out who we are. What other people, real or imaginary, do and think and feel... is an essential guide to our understanding of what we ourselves are and may become.

(Ursula K. Le Guin)

Books don’t offer real escape, but they can stop a mind scratching itself raw.

(David Mitchell)

Reading—it’s the third best thing to do in bed.

(Jarod Kintz)
In this thesis, we have tried to find answers to some of the most urgent questions about the narrative experience on screen. In Part One, we have theorized the possible changes that the shift of different kinds of reading, particularly narrative reading, from paper to screen may cause. In Part Two, we have looked at some of the empirical research that has been done to verify the ideas that exist about screen reading. Since most research focused on comprehension and retention, this thesis certainly had a gap fill in the field of Screen versus Paper Reading (SvPR). We will conclude with a synthesis of Part One and Two, highlighting the key concepts in the field of (narrative) SvPR.

We started by looking at the development of the book. In comparison to the relatively recent invention of the screen, we find that the book has had centuries to find its ideal shape in terms of portability and typography. A novel that follows all the typographical and material standards allows us to be completely immersed in a story and forget about the world around us and the book we hold and handle. We found that the screen might prevent this complete immersion on three different levels: due to its unfamiliar materiality (causing haptic dissonance), its difficulty to manipulate (causing cognitive dissonance) and its multimodality. This should not be a surprise, firstly because we have optimized our reading in part based on the book (this is a process that goes back and forth between book and reader) and the screen is not the same as the book. Secondly, the screen has only had a couple of decades to develop and improve. While the book has reached its optimal state — that is to say: it can become completely invisible in our narrative reading experience — the ideal settings of the screen for different kinds of reading are still unknown. Moreover, the screen is not only for reading long texts: it is a substrate that does not change on the basis of its content. Paper distinguishes between text genres with e.g. magazines, books and newspapers which all have a different materiality. The shape of the screen stays the same whether you use it to read a book, a magazine, or watch a film.

We have seen, however, that the reading medium and/or substrate is only part of what shapes the narrative reading experience. A reader herself determines very much too, consciously and unconsciously. Both short-term aspects — such as her mood — and long-term aspects — such as her reading diet — influence her reading experience. In fact, in this thesis’ experimental pilot, we found that when readers read much in general, this may influence (in this case: make more enjoyable) the reading experience more than the reading substrate and/or medium.

In discussing the specifics of what constitutes a narrative reading experience, we found a number of essential elements: our ability to become absorbed and immersed, to forget the world around us and also ourselves, and to lose ourselves in the experience of being someone else. We found that the narrative experience may also influence us in turn. By practicing our Theory of Mind — the process of looking through someone else’s eyes and coming to understand them — we become more empathic.

When we brought the topic of ToM back to screen versus paper, we found that practicing our ToM on written narratives requires more cognitive effort than on narratives we hear or view. Moreover, reading on screen requires more cognitive effort than reading on paper. Theoretically, this double cognitive effort may prevent readers from becoming fully immersed. On screen, a reader may be less invested and thus not practice her ToM as actively as on paper; i.e. she is less emotionally invested in the characters and story.

In this thesis, I have argued that the main difficulty of reading on screen is likely habituation. According to Van der Weel’s (2015) ‘Order of the Book’: “almost six centuries of printing have shaped our implicit assumptions about, and active practices of, knowledge production, distribution and consumption of books”. The way we read has been completely geared to the
book and its different shapes, which often give us clear cues about the kind of text we have in front of us. Vague or contradictory textual cues, however, could lead to us mixing up our reading schemata. The screen, without its centuries of developments, is full of vague multimodal cues. We do not know what to read or watch on screen as there are often multiple windows vying for our attention at the same time. Even if we can deal with this two-dimensional multitasking — digital natives appear to be somewhat competent at this — we cannot rely on any well-established habitual reading scheme or strategies yet to determine how to read on screen.

When we read on screen, it is thus not necessarily or primarily the medium or substrate that determines how we read — we read based on ingrained, automatic, embodied and cognitive habituated processes. The habituated reading processes we have built in relation to the screen — mostly skimming or searching in hyperlinked textual spaces — do not apply well to reading long narratives. And again, many screen habits are not even based on text alone but on multimedia consumption, and very different kinds of presentation of different media which is partly determined by software and partly by hardware. For instance, I am sure that everyone who has ever worked with a touch screen has at some point tried to use a non-touch screen in the same way. Such confusion would never occur paper.

But to what extent does the fact that we are not (yet) habituated to reading long texts on screen change the narrative reading experience on screen? More research has to be done with different groups to answer this question. Nevertheless, what can be argued based on the theory and empirical results discussed in this thesis is that some reading is more suitable for one medium, and some for another medium. It appears that printed text is more suitable for long texts, complex texts, and narrative texts, and fits the grazing reading strategy best; whereas the screen is more suitable for short texts, communicative texts, hypertext, and the reading strategies browsing and especially hunting. This does not mean that reading narrative texts on screen necessarily disrupts or ruins the reading experience, or that browsing through a novel is not enjoyable, too.

This is how things stand for (narrative) screen reading in the early 21st century. What about the future? What might happen to screen reading, and what kind of research do we need to find out and adapt accordingly?

To begin with, the kind of research done in this thesis’ experimental pilot and done by Mangen & Kuiken (2015) should be repeated with a number of different modifications. On the level of substrates, e-ink screens should be involved. On a material level, we should also compare what it is like to read a story in a book vis à vis a magazine or newspaper. In the same way that a tablet, smartphone and laptop may change the reading experience, different print materialities and/or substrates might do the same, perhaps also on the metacognitive level as investigated in Ackerman & Goldsmith’s (2011) paper. Differentiation is thus necessary, both for narrative SvPR research and for other kinds of SvPR research. Differentiation is the keyword, really, for future research in this area. There should be very different pools of participants, especially participants with a lower education, less training with (long) (narrative) text (screen) reading. Such participants should be given enough time to get adjusted to a screen medium before being asked to join experiments. Part Two has repeatedly shown the different results and experience of reading that are caused by familiarity with the medium — empirically when it concerns reading for comprehension, but theoretically also for narrative reading.

Furthermore, this kind of research should be also done over a longer period of time. That is to say, research should be done with considerably longer texts (novels). It would also be very helpful to follow children in their social and linguistic development, one group that reads their
narratives on screen and one group that reads their narratives on paper. Furthermore, we need more long-term research on the nature of empathic abilities to see whether the link between reading narratives and gaining empathy can also really be established on the long term on a social, psychological, and possibly biological level. Finally, an area that is under-researched in literary studies anyway, and which deserves special attention in the field of SvPR, is the divide between fictional and non-fictional narrative texts. Mangen & Kuiken found significant differences in narrative engagement on SvPR when they compared readers who thought they read a non-fictional text as opposed to a fictional text. Those who read non-fictional text on screen were less engaged. Furthermore, like in my experiment, they did not use a particularly literary text. Since frequent foregrounding in literary texts has been said to trigger stronger emotional engagement (Koopman & Hakemulder 2014) and stronger embodied reading experiences (Kuijpers & Miall 2011), it should be interesting to see whether experienced literature readers do have lower scores for absorption, emotion or embodiment on screen than on paper when they read literature with much foregrounding.

We can expect that the screen will keep changing and improving until it, too, finds its optimal form. Eventually, we should be able to expect that we know what typography is best for different kinds of texts on screen. We may also expect that, as an extension of Turing’s dream, the hardware of the screen will not have to change anymore to suit itself to the reader’s reading purpose or text genre. A kind of screen of which the materiality can change: something like paper, e-ink and full-color screen in one. Perhaps our future reading habits will be based on even more extensive, diversified reading than they are today already. Nevertheless, the screen will never be — and should not be made to be! — like reading a book: there will be no pages to turn and no old book-smell. But that is perfectly fine. They are not meant to be the same medium. What we should strive for is that we understand what these media are best at. While the book is now a stable medium with some experiments on the side, the screen still has a long road of exciting developments ahead. Therefore, we should keep investigating how these (reading) media interact and change each other — and how they will keep changing us.
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The call for participants was put through Facebook and the University's Blackboard site, Nestor. All communication used a certain amount of gamification, and the promise to win a box of cupcakes, to get potential participants excited to join.

This appendix contains the following documents:

- call for participants and ensuing communication with participants;
- instructions for participants;
- questions of the mood meter;
- questions of the questionnaire.
Hi invariably awesome students of the BA English Language & Culture and MAs WEM and English Literature and Culture!

I — a former BA English — am interested in YOUR narrative reading experiences. Since you study English, you’re probably into reading books, and you probably do it a lot. This makes you an expert in reading. And I would like to know about the experts’ individual, personal, intimate experiences with a story.

If you would like to participate, I send you the story, you read it, and you fill out a questionnaire about your reading experience. It’s as easy as 1, 2, 3! Because it’s just three steps, literally. You can do these things from the comfort of your own home, as the story will be sent to you.

More importantly, **YOU CAN WIN A BOX OF CUPCAKES**. One lucky name will be randomly picked from among the participants and will receive a box of cupcakes before the end of July!

It only takes a few minutes, I will be eternally grateful, and — more importantly — it’s a beautiful story which will enlighten you for the rest of your life. It can sink ships, split mountains, and bring the dead back to life. Metaphorically speaking.

Sounds cool? Send a message to em.wiersma@live.com, and I will get back to you. The message only needs to contain the word “cupcake” and I’ll know what it’s about.

Dear Participant,

You have cast your name in the Goblet of Cupcakes and are therefore in the running to receive an amazing box of cupcakes. Congratulations! The cupcake, unlike the cake, is not a lie.

You will be sent a story by e-mail or by post. Where it will end up is entirely random. For this, I require

1). an **e-mail address** that you use regularly;
2). a **postal address** where you will be able to receive post until 8 July;
3). your desire for cupcakes, which will stimulate you to fill out the questionnaire, the link of which will be found in the e-mail/envelope.

You have shown great audacity by signing up. By the power of the Cupcake, I hope it will be rewarded!
Thank you for participating in this experiment. It is great that people want to contribute to figuring out what actual readers’ experiences are like in today’s day and age!

**FIRST**, please browse to [LWUUN.NET/QUEST](http://LWUUN.NET/QUEST) and fill out the one question in the “Mood Meter”.

**SECOND**, please follow these instructions before reading the story:

- Ensure that you have **turned off “connections”**: turn off your **phone** or put it somewhere you will not notice being texted or called, turn off your **internet connection** (on computer, or laptop), ask the people you share a house with **not to disturb** you for a few minutes.

- Read the text as you would **for your own pleasure**: sit in whatever way you are comfortable, and read it from which screen you would usually read texts (a laptop or computer).

- **NB**: Please **do not print** the text, and **do not read the text on an e-ink screen or tablet**!

- The questions you get will be **about your experience** of the story, not about plot or comprehension. You’re not reading the text for any kind of “exam”, so you don’t have to read the text in the same analytical way you would read texts for uni.

And now: just sit back, relax, and read the story!

———-———-———-———-———-———-———-———-———-———-———-———-———-

**THIRD**, when you have finished the story, please return to [LWUUN.NET/QUEST](http://LWUUN.NET/QUEST) to find a link to the questionnaire. Fill out the questionnaire.

**YOU HAVE BEEN A GREAT HELP AND AN INSPIRATION FOR THE GENERATIONS TO COME!**
3. Mood meter

All the following sub-items were rated by the participants on a 6-point scale.

1. **What is your mood like right now?**
   1.1. I am happy
   1.2. I don’t really have a strong mood right now
   1.3. I feel sad

2. **Fill out a nickname you can remember so that your mood meter can be matched with your questionnaire**
   2.1. ______________
4. Questionnaire

1. Please fill out the nickname you used in the mood meter
   1.1. _______________

2. What is your mood like now that you have finished the story?
   2.1. I am happy
   2.2. I feel the same as before I read the story
   2.3. I feel sad

3. What was your experience of the story?
   **Attention** (NB: these titles could not be seen by participants; and items were displayed in random order per participant)
   3.1. When I finished the story I was surprised to see that time had gone by so fast
   3.2. When I was reading the story I was focused on what happened in the story
   3.3. I felt absorbed in the story
   3.4. The story gripped me in such a way that I could close myself off for things that were happening around me
   3.5. I was reading in such a concentrated matter that I had forgotten the world around me

   **Transportation**
   3.6. When I was reading the story it sometimes seemed as if I were in the story world too
   3.7. When reading the story there were moments in which I felt that the story world overlapped with my own world
   3.8. The world of the story sometimes felt closer to me than the world around me
   3.9. When I was finished with reading the story it felt like I had taken a trip to the world of the story
   3.10. Because all of my attention went into the story, I sometimes felt as if I could not exist separate from the story

   **Emotional engagement**
   3.11. When I read the story I could imagine what it must be like to be in the shoes of the main character
   3.12. I felt sympathy for the main character
3.13. I felt connected to the main character in the story
3.14. I felt how the main character was feeling
3.15. I felt for what happened in the story

**Mental imagery**
3.16. When I was reading the story I had an image of the main character in mind
3.17. When I was reading the story I could see the situations happening in the story played out before my eyes
3.18. I could imagine what the world in which the story took place looked like

**Enjoyment**
3.19. I rather did not want the story to end
3.20. I thought it was a compelling story
3.21. I thought the story was beautiful
3.22. I read the story with great interest

**Comprehension**
3.23. I understood the story well
3.24. The storyline was easy to follow
3.25. I had no trouble reading the story

4. **Where were you when you read the story?**
   A. In my own room (bedroom or student room)
   B. In a common area ((living) room you share with others, kitchen)

5. **How were you seated when you read the story?**
   A. Lounging on the couch/easy chair/on bed with the story (screen or print copy) on my lap
   B. Sitting on a chair/couch with the story (screen or print copy) on my lap
   C. Sitting in front of a desk/table with the story (screen or print copy) on the desk/table

6. **Were you distracted at any point during reading?**
   A. Yes, I was distracted by someone entering the room
B. Yes, I was distracted by someone/something seeking contact (a pet, email/message through phone or laptop)
C. Yes, I was distracted by something I read in the story and that had me think for a moment
D. Nope
E. Yes, I was distracted by something else, namely... _________________

7. Did you read the story on screen?
   A. Nope
   B. Yes, and these are the specifics: (example: “the screen of a 2011 15" Macbook Pro”; or "an Acer 17" monitor")... _________________

8. Would you want to read the whole book?
   A. Yes
   B. No
   C. I have already read it

9. Are you an experienced reader?
   9.1. I have much experience reading long continuous narratives (e.g. novels)
   9.2. I have much experience reading long texts on screen (e.g. novels, articles, essays)
   9.3. I have much experience reading stories on screen
   9.4. I think I read as well (in terms of comprehension) on screen as on paper.
   9.5. If I read a complex text, I prefer to print it, and not read it on screen
   9.6. When I’m reading for fun, I would rather read from a paper copy of a book than from an e-book
   9.7. I think my experience of the story would have been different if I had read it on a different medium

10. What is your age?
    A. <21
    B. 21-23
    C. 24-26
    D. 27<
11. And your gender?
   A. Male
   B. Female
   C. Other

12. Finally, for The Race Towards Winning The Box of Cupcakes, what is your e-mail address?
12.1. ______________________________
Everything is over.

The last of the summer still finds its way through the clouds some afternoons, but the night is coming in earlier and the fat-bodied spiders have built a maze of webs across the alleyway at the bottom of the garden. In the early morning they’re all silver with dew. I’d not really noticed any of this until today. For me, it still feels like late August. The clocks tick but nothing seems to change, no matter how far the hands travel.

Clio’s mum came to the house about a week ago for some photographs and an old scarf Clio wore when she was a kid and had somehow hung onto. I’d never even seen the scarf before but I pretended it was a big deal for Clee and nodded in the right places and fetched some tissues when her mum started to cry. She’d brought some photo albums with her and she showed me pictures of all the Clios I hadn’t known—Clio at school with too-big teeth and gaps and pigtails playing an angel in a nativity play, Clio the baby in the bath and with food on her face, Clio the teen with black tights, short skirt, a tie knotted all don’t-give-a-fuck to one side, Clio the girl guide all excited at camp, Clio the A-level student with her army shop clothes and chin-length hair at a festival, around the time they found out she had cancer. Her mum quizzed me on everything that happened in Greece, everything to do with the accident and not to do with the accident, and each time I told her something I could see her concentrating, like she was saving it in her head, storing it all up.

I know I probably won’t see any of her family again. It’s just too hot and too sharp and we’ll only cut ourselves on each other if we try to stay in touch.

It’s midday. All Clio’s stuff is gone.

For so long I didn’t touch anything. Timelessness again, the house like a secret temple as dust built up on things that were never meant to have dust on them—Clee’s toothbrush and hairdryer and leftover-of-the-box CDs and deodorant on the bathroom window ledge. Ordinary things carefully kept in place because the last person to touch them would never put a cup down on the edge of the table again, or ever leave a book half-read. The world strained to move on without her and I strained to hold back the tide. My dad came over to see me not too long ago. He’s not too good at talking, my dad, but
he did try to tidy up a bit as I made him a coffee. He moved one of Clio’s books and I screamed at him until I almost lost my voice but he still didn’t understand and tried to put the book back where it was, saying there, look, it’s alright, see? You’d never know. In the end he just held onto me as I sobbed and I knew he was crying too, but silently, white stripes down his tough stubbly face.

Clio drowned scuba diving off the coast of Paros. Wreck diving. She’d seen a flyer for the diving school and went on and on and on about it. In the end, we left Naxos a couple of nights early so she could go and try it out on the way back to the mainland.

When the police came to find me I was sitting outside our new hotel, drinking an Amstel beer and finishing off my Paul Auster book. It was early evening and I was thinking about pizza and cocktails and finally getting back to the UK. I was thinking about drunken sex a couple of nights earlier and the way our breath and sweat formed up on the plastic insides of our tent and how we lay there tangled together with all our stuff kicked around.

‘Maybe a cramp.’ They put me in a little room with a fan and a jug of water. The faces came and went and sometimes I didn’t hear what they told me until hours later. ‘Maybe a cramp. A second of panic. A gasp of seawater.’

A gasp of seawater. How much is a gasp? Not much, maybe half a glass, half a glass of ordinary everyday seawater. Just picture it sitting in front of you, visualise it, it’s nothing, is it? It’s nothing. Stupid and pointless. It’s like dying from being five minutes late. It’s like dying because you’ve forgotten your fucking wallet.

Sometimes, late at night, the phone would ring. For the first few weeks after I got back it happened all the time. I’d sit up in bed for hours, waiting for it—burr burr, burr burr. Burr burr, burr burr—then Clio’s dad’s voice would say ‘I want you to tell me about’ or ‘stupid fucking cunt’ or ‘sorry. Listen, I’m sorry’ or ‘it’s not—why would this’ or ‘little girl’ or ‘weren’t you looking after’ or ‘I can’t, I just can’t—’. Sometimes there would be no words at all, just three, four, five heaving sobs then the line would go dead.

I’d always say the same thing to him,

“I’m sorry, I’m so so sorry.” I’d cry for a long time after he’d hung up, sometimes all night. I never told anybody.

I’m always remembering details. Just a second ago it was how we finally managed to cook ourselves a full English on our little camp stove the night before we packed up the site on Naxos and headed for the boat. All these memories, they all hurt so much and each one in a different way so I don’t think I’ll be able to stand it without tearing open and spilling the aches out all over the floor. What’s even worse, what drives me sick is this: none of the things I think I remember about her are all-the-way true or complete. I’m already losing her to generalisations, the endless Chinese-whispering of memory. I’d written a sort of journal while we’d been away and even reading through it for the first time I could see how full of holes it was. We were never that cool or that witty. We didn’t say things in just the right way all the time, or even a quarter of the time. There’s nothing in there about how Clio could sometimes be unkind or about how easily she could lie to people if she thought it was better for them not to know things. There’s nothing about the times when she wasn’t funny or sexy, or when she talked too much or about her pissing or shitting. There’s no way to really preserve a person when they’ve gone and that’s because whatever you write down it’s not the truth, it’s just a story. Stories are all we’re ever left with in our head or on paper: clever narratives put together from selected facts, legends, well edited tall tales with us in the starring roles. I’ve read the journal so many times now the lines are all wooden and obvious, as unrealistic as a daytime soap or a famous Hollywood movie you’ve seen a thousand times. The characters look like me and Clio but they aren’t us, they’re just actors speaking the exact same stylised words over and over and over, with everything true falling away through the cracks.
Three weeks after I got home, I got a phonecall. The Greek police had Clio’s waterproof camera and wanted to know if I wanted it back. It arrived five days later.

A Kodak photo packet with thirty-six photographs of colourful exotic fish sat here on the kitchen table for a long time. I looked and looked and looked at those pictures for hours, days, until I could see them with my eyes closed, until I knew every fish and I knew every composition. I could tell you anything about any of them—the ones perfectly in focus, the ones too close or motion blurred, the three where Clio’s thumb was a pale pink moon over the corner of the frame. I looked at them so much, some days I did nothing else.

Early yesterday morning, when the spider’s webs were full of dew, I drove into town, to a building site where they’re putting up a leisure centre or a cinema, and I took the fish pictures and negatives out of their wallet and threw them one by one down a deep dark shaft sunk into the earth. Then I came back here and began to pack and clean and tidy.

I took all your things away, Clee. Gave them away, sent them away. I thought it was the right thing. I did it because I didn’t think I could hold back the world anymore.

But I went too far.

Sitting here now, in this empty house, I know I should never have thrown your underwater pictures away. Yesterday, it was as if those thirty-six photographs were what happened to you. I hated them, blamed them, kicked them and threw them across the room. I couldn’t cope anymore with them being there on the table, in the house, even in the world. But now they are gone, all I can think about is how much you wanted that underwater camera and how you’d been so excited about seeing those pictures, seeing if they came out. All I think about is me laughing and you splashing about in the surf with that camera on Naxos, looking for the next bright or big or not-quick-enough fish and throwing yourself into the waves. I think about how happy we were there, in that place, in our tent, on that beach. It breaks my heart and I want those photos back, Clee. I want them back so much. I can’t believe what I’ve done.

I gave our landlord notice last week. I’m going to move away for a while. I haven’t told anyone I’m going, not even my dad. I don’t know if that’s the right thing or not but the truth is I can’t face anyone, I can’t stand being me anymore.

I miss you, Clio.

I’m so, so sorry.
APPENDIX 3

Results of empirical experimental pilot

As per request of the thesis supervisor, the statistical analyses of the data have been confined to the appendices. What follow are, firstly, the relevant data that have been mentioned and referred to in the thesis. Secondly, additional data that may be of interest to the reader. For clarity, all tables have an accompanying visualization.

You will find the following:

1. Self-reported comprehension was higher on screen than on paper
2. Emotion, imagery and experience with reading long narratives predicted enjoyment
3. Attention can be predicted by transportation and experience with reading long narratives
4. Mood strength and mood difference did not predict enjoyment
5. Mood strength and mood difference could not be predicted by reading medium
6. Distraction did not influence absorption, enjoyment or comprehension
7. Participants’ scores on the experiential states of absorption on screen vs. paper
8. Correlations between SWAS, comprehension and enjoyment
9. Age and the experience with long narratives

NB: The two screen outliers were excluded for any of the statistics that directly involve the SWAS, since both scored 1-2 (so extraordinary low) on the entirety of the SWAS.

NB 2: Results below -.6 or above .6 are considered truly significant. While some data here thus may appear significant (as suggested by SPSS), they are not for the small sample we have. (The * and ** sometimes found under tables is what SPSS considers significant.)
### 1. Self-reported comprehension

Table 1 shows that, not only do screen readers consistently report significantly higher comprehension, there is also less within-group variance. That is to say, screen readers ‘agree more’ on how well they understood the story (SD ≈ 0,107), while paper readers have rated their own comprehension further apart (SD ≈ 0,221). In graph 1, we can clearly see how the medium-specific scores are further apart for every next item.

<table>
<thead>
<tr>
<th>Scores</th>
<th>Item 1</th>
<th>Item 2</th>
<th>Item 3</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>5,25</td>
<td>5</td>
<td>4,81</td>
<td>5,02</td>
<td>0,221</td>
</tr>
<tr>
<td>Screen</td>
<td>5,43</td>
<td>5,64</td>
<td>5,57</td>
<td>5,55</td>
<td>0,107</td>
</tr>
</tbody>
</table>

Table 1. The scores of the three items of comprehension (see Appendix 1) per medium, with 1 as lowest comprehension and 6 as highest comprehension.

Graph 1. The scores of the three items of comprehension (see Appendix 1) per medium, with 1 as lowest comprehension and 6 as highest comprehension.
## 2. Predictors of enjoyment

### Table 2. ANOVA with enjoyment as dependent variable.

<table>
<thead>
<tr>
<th>Model</th>
<th>B (unstandardized)</th>
<th>Std. Error (unstandardized)</th>
<th>Beta (standardized)</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.512</td>
<td>.444</td>
<td>1.153</td>
<td>.259</td>
</tr>
<tr>
<td></td>
<td>emotional engagement</td>
<td>.858</td>
<td>.100</td>
<td>.860</td>
<td>8.584</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>-.768</td>
<td>.483</td>
<td>-1.588</td>
<td>.125</td>
</tr>
<tr>
<td></td>
<td>emotional engagement</td>
<td>.571</td>
<td>.109</td>
<td>.572</td>
<td>5.249</td>
</tr>
<tr>
<td></td>
<td>mental imagery</td>
<td>.572</td>
<td>.146</td>
<td>.427</td>
<td>3.916</td>
</tr>
<tr>
<td>3</td>
<td>(Constant)</td>
<td>-2.446</td>
<td>.852</td>
<td>-2.872</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>emotional engagement</td>
<td>.637</td>
<td>.104</td>
<td>.638</td>
<td>6.104</td>
</tr>
<tr>
<td></td>
<td>mental imagery</td>
<td>.567</td>
<td>.135</td>
<td>.423</td>
<td>4.204</td>
</tr>
<tr>
<td></td>
<td>experience with long narratives</td>
<td>.261</td>
<td>.113</td>
<td>.183</td>
<td>2.313</td>
</tr>
</tbody>
</table>

Table 2: ANOVA with enjoyment as dependent variable.

- a. Predictors: (Constant), emotional engagement
- b. Predictors: (Constant), mental imagery
- c. Predictors: (Constant), experience with reading long narratives

### Table 3. Emotional engagement, mental imagery and experience with reading long narratives as the coefficients of enjoyment.

<table>
<thead>
<tr>
<th>Model</th>
<th>B (unstandardized)</th>
<th>Std. Error (unstandardized)</th>
<th>Beta (standardized)</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>22.241</td>
<td>1</td>
<td>22.241</td>
<td>73.680</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>7.848</td>
<td>26</td>
<td>302</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30.089</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression</td>
<td>25.225</td>
<td>2</td>
<td>12.612</td>
<td>64.815</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>4.865</td>
<td>25</td>
<td>195</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30.089</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Regression</td>
<td>26.111</td>
<td>3</td>
<td>8.704</td>
<td>52.510</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>3.978</td>
<td>24</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30.089</td>
<td>27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Emotional engagement, mental imagery and experience with reading long narratives as the coefficients of enjoyment.
If the medium cannot predict enjoyment, what other variables are then clearly (much) more important than the medium in determining whether a reading experience is pleasurable or not, at least for the participants in this experiment? When we say that a particular variable predicts another variable, this means that when we have those predictors, we can make a fairly good guess at the dependent variable (here: enjoyment).

Tables 2 and 3 suggest that emotional engagement has most influence on the participants’ amount of enjoyment. Quite a way behind emotional engagement come mental imagery and the participant’s experience with reading long narratives as predictors.
3. Predictors of attention

On the basis of an ANOVA performed with attention as the dependent variable, the combination of transportation and experience with reading long narratives explained most variance. Therefore, on the basis of transportation and this experience, we can make a fairly accurate guess at the reader’s attention score. The medium thus shows to have no direct influence on attention, which disproves the hypothesis that the screen would lower attention scores.

Table 4. ANOVA with attention as dependent variable.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>15.388</td>
<td>1</td>
<td>15.388</td>
<td>70.734</td>
</tr>
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<td></td>
<td>Residual</td>
<td>5.656</td>
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<td>218</td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>21.044</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression</td>
<td>16.809</td>
<td>3</td>
<td>8.404</td>
<td>49.608</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>4.235</td>
<td>25</td>
<td>169</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21.044</td>
<td>26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Transportation and experience with reading long narratives as the coefficients of attention.

<table>
<thead>
<tr>
<th>Model</th>
<th>B (unstandardized)</th>
<th>Std. Error (unstandardized)</th>
<th>Beta (standardized)</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.491</td>
<td>.296</td>
<td>5.042</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>transportation</td>
<td>.730</td>
<td>.087</td>
<td>.855</td>
<td>8.410</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>-.761</td>
<td>.820</td>
<td>-.928</td>
<td>.362</td>
</tr>
<tr>
<td></td>
<td>transportation</td>
<td>.843</td>
<td>.086</td>
<td>.988</td>
<td>9.806</td>
</tr>
<tr>
<td></td>
<td>reading experience</td>
<td>.347</td>
<td>.129</td>
<td>.292</td>
<td>2.892</td>
</tr>
<tr>
<td></td>
<td>long narratives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On the basis of an ANOVA performed with attention as the dependent variable, the combination of transportation and experience with reading long narratives explained most variance. Therefore, on the basis of transportation and this experience, we can make a fairly accurate guess at the reader’s attention score. The medium thus shows to have no direct influence on attention, which disproves the hypothesis that the screen would lower attention scores.
4. Mood and enjoyment

Table 6 shows that the extent to which the differences in mood strength correlates with each other and ultimately with enjoyment. Pre happiness and sadness were measured with the mood meter, before reading, while post happiness and sadness were measured at the start of the questionnaire, so after reading.

Mind, these are correlations, not causal connections. On the basis of this data, we could therefore not say whether the minor significant negative correlation between enjoyment and post sadness is caused from enjoyment to sadness or from sadness to enjoyment. In any case, this negative relationship means that if one goes up, the other goes down. The same can be said for post happiness and post sadness: when post happiness goes down, post sadness goes up (which makes sense, seeing as these are opposing emotions).

Finally, there is also a slightly significant correlation between pre sadness and post sadness, suggesting that a sad mood contributed to the sadness caused by the story.

All of these are not truly significant however, definitely not for this sample size, and so they were not treated as such in the thesis.

Table 6. The extent to which difference in happiness, difference in sadness and enjoyment correlate.

* Correlation is significant at the 0.05 level (2-tailed).
5. Mood and medium

Table 7 shows that, while the happiness and sadness difference do (naturally) have a significant strong negative correlation, neither correlates with the medium. This means that the medium does not influence whether the story makes a reader more sad, or less happy; i.e. it has no impact on the strength of the mood changes.

<table>
<thead>
<tr>
<th>Medium difference</th>
<th>Pearson Correlation</th>
<th>Happiness difference</th>
<th>Sadness difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium difference</td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>Happiness difference</td>
<td>Pearson Correlation</td>
<td>Happiness difference</td>
<td>Sadness difference</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.203</td>
<td>-.704**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.290</td>
<td>.521</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>Sadness difference</td>
<td>Pearson Correlation</td>
<td>Happiness difference</td>
<td>Sadness difference</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.127</td>
<td>-.704**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-.704**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
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<td></td>
<td></td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>

Table 7. Correlations between the difference in happiness and sadness before and after reading and the medium.

** Correlation is significant at the 0.01 level (2-tailed).
6. The effect of distraction

Table 8 shows that distraction does not correlate (and can therefore certainly not have caused) differences with the SWAS, comprehension or enjoyment. There is only one significant correlation that we can detect here, which is between the SWAS and enjoyment. This is further explored in appendix 3.8.

<table>
<thead>
<tr>
<th></th>
<th>Distraction</th>
<th>SWAS mean</th>
<th>Comprehension</th>
<th>Enjoyment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distraction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correlation</strong></td>
<td>1</td>
<td>.170</td>
<td>.092</td>
<td>.240</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.368</td>
<td>.629</td>
<td>.202</td>
</tr>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>SWAS mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correlation</strong></td>
<td>.170</td>
<td>1</td>
<td>-.113</td>
<td>.864**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.368</td>
<td>.551</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Comprehension</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correlation</strong></td>
<td>.092</td>
<td>-113</td>
<td>1</td>
<td>-.032</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.629</td>
<td>.551</td>
<td></td>
<td>.867</td>
</tr>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Enjoyment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correlation</strong></td>
<td>.240</td>
<td>.864**</td>
<td>-.032</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.202</td>
<td>0</td>
<td></td>
<td>.867</td>
</tr>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 8. Correlations between distraction and the SWAS, comprehension or enjoyment.
7. SWAS scores per medium

Table 9 shows that the paper group scores slightly higher on all experiential states. However, since this is not a statistically significant difference, we cannot use it to say that the medium causes a measurably different reading experience. What is interesting and worth more investigation, however, is that for screen, especially transportation and to some extent emotional engagement, both have relatively large standard deviations. That is to say, there was more in-group variance for screen readers. This in itself does not mean anything but it is worth — especially considering the repeatedly suggested link between them — to investigate this in more detail with a larger pool of participants.

<table>
<thead>
<tr>
<th>Experiential state</th>
<th>Medium</th>
<th>Mean scores</th>
<th>Standard deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention</td>
<td>Paper</td>
<td>4.0254</td>
<td>0.73711</td>
<td>0.18428</td>
</tr>
<tr>
<td></td>
<td>Screen</td>
<td>3.6714</td>
<td>0.96271</td>
<td>0.25730</td>
</tr>
<tr>
<td>Transportation</td>
<td>Paper</td>
<td>3.5250</td>
<td>0.62343</td>
<td>0.15586</td>
</tr>
<tr>
<td></td>
<td>Screen</td>
<td>2.9571</td>
<td>1.26947</td>
<td>0.35588</td>
</tr>
<tr>
<td>Emotional engagement</td>
<td>Paper</td>
<td>4.4000</td>
<td>0.87939</td>
<td>0.21985</td>
</tr>
<tr>
<td></td>
<td>Screen</td>
<td>4.1857</td>
<td>1.23902</td>
<td>0.33114</td>
</tr>
<tr>
<td>Visual imagery</td>
<td>Paper</td>
<td>4.6667</td>
<td>0.59628</td>
<td>0.14907</td>
</tr>
<tr>
<td></td>
<td>Screen</td>
<td>4.1667</td>
<td>0.89395</td>
<td>0.23892</td>
</tr>
</tbody>
</table>

Table 9. The scores on the experiential states that are measured using the Story World Absorption Scale. 1 is lowest (due to strong disagreement with experiential state items) and 6 is highest (due to strong agreement with items).

Graph 2. Visualization of the mean scores of the SWAS per medium. While paper scores are consistently slightly higher, the difference is not significant.
8. Correlations

This table functions as a confirmation of the effectivity of the Story World Absorption Scale. All the scale’s experiential states correlate very significantly with each other, and all also correlate very significantly with enjoyment. They do not correlate with comprehension, but this is no problem or surprise, since comprehension was very high, even for the two outliers who scored extremely low on the SWAS (see appendix 3.1).

<table>
<thead>
<tr>
<th>attention</th>
<th>correlation Pearson</th>
<th>correlation Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>attention</td>
<td>1</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>transportation</td>
<td>.852**</td>
<td>.785**</td>
<td>30</td>
</tr>
<tr>
<td>emotion</td>
<td>.785**</td>
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Table 10. Correlations between all experiential states of the SWAS, enjoyment and comprehension.

** Correlation is significant at the 0.01 level (2-tailed).
9. Age and experience with reading long narratives/training

Table 11 shows the reading experience that readers report they have on the basis of their age. Most participants are fairly young, as they came from the Bachelor English Language & Culture. Nevertheless, we can see a correlation between older age and a higher self-assessment of reading experience. Indeed, we can see well illustrated in graph 3 that the option “strongly agree” is mostly made up by age 21 and above (the majority of the participants). It is clear, however, that overall, comprehension is already very high. The two SWAS outliers have been included here.

Table 11. Items age and I have much experience reading long narratives with the amount of responses per combination

<table>
<thead>
<tr>
<th>Score</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Total</th>
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<tr>
<td>&lt;21</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>21-23</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>24-26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
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<tr>
<td>27&lt;</td>
<td>0</td>
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<td>0</td>
<td>2</td>
<td>2</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>4</strong></td>
<td><strong>10</strong></td>
<td><strong>14</strong></td>
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Graph 3. The extent to which the relative amount of people per age group make up the scores to the item I have much experience reading long narratives.
The Parareader

During the Ravenstein seminar, most of my attention went to the reader. I was wondering who the reader is and how reader practices have changed, in particular in the age of digitisation. Too many answers were given to that question to include in this portfolio, which is why I will make an attempt to restrict this investigation by only looking at the reader and her reading along three main lines with the help of the term “parareader”. While the main focus will be on book reading and book paratext, sidesteps will be made to other media.

Coming from Greek, the prefix para- has a number of meanings, three of which are “beyond”, “abnormal”, and “side by side”. What a reader is and what the reading is that she does, have grown far beyond what they were in print culture; there is no “the reader” anymore, no “normal” reading; and finally, reading has become social, something that readers do side by side. Throughout this portfolio, the term parareading will indicate all that is read (and done) in addition to the reading of the main book.

In the discussion of the beyond-parareader, attention will be paid to way text and paratext (i.e. text about or to do with the book/primary text, including extradiegetic elements such as footnotes but also book reviews) have become so interwoven that a reader cannot help but include paratext in reading. This means that the beyond-parareader’s skills also (need to) change.

With the abnormal-parareader, attention will be paid to the way in which the reader has diversified. What it means to be a contemporary reader and what it means to “read” is not straightforward anymore: there is no standard or normal reader. Among other reasons thanks to personalisation (possibilities), reading and parareading can be catered entirely to the reader’s personal wishes. When discussing the side by side-parareader, attention will be paid to the socialisation of reading. While reading is highly personalised, parareading means that the reader never reads alone. It may mean, in fact, that her very reason for reading is social. Before concluding in a metahermeneutic fashion what these changes may mean for scholarship, I will reflect briefly on what parareading may mean for reading itself.

1 To simplify reading, I will refer to the reader as female, but she stands for any kind of reader.
When I refer to “we” or “us”, I mean “we readers (of this portfolio)” (if the reader indulges to follow my logic) but more importantly “we literary scholars/academics”.

2 http://dictionary.reference.com/browse/para-
In any case, this portfolio will illustrate that reading entails much more than before the age of digitisation: the reader of today is a parareader.

THE BEYOND-PARAREADER: PARAREADING A BOOK IS READING FAR MORE THAN A BOOK.

While there are many things that scholars do not agree on when it concerns readers and their reading in the digital era, one thing is clear: reading encompasses a larger, broader and more diverse field than it used to. Indeed, Felski notes that reading involves “quite disparate activities” (14), Collins argues that reading “is no longer restricted to the printed page” (2013: 108), and Van der Weel shows that reading not only goes beyond reading the book (or any primary text) but that reading is now an activity that shares the same space as e.g. shopping, e-mailing, and watching films (2011: 2). Consequently, reading itself has not only become broader, as it involves more paratext and more different activities, its immediate context has also changed.

In terms of what might have caused the change, it is fairly easy to point at, firstly, the internet, and secondly, e-reading devices (primarily e-readers and tablets). These devices increase access: they can contain any number of books and they offer many possibilities that print books do not inherently have. An e-reader does not only contain books: it also has a dictionary (tap a word and get a definition), it has a highlighter, it has “share” features, to name a few options. While these elements are not new, they were never before all contained in one device. A reader would need more objects than just a book (e.g. a dictionary and a pencil) to do what can be done on the e-reader. Access increases even further, of course, when when the e-reader has an internet connection. Jim Collins argued in his keynote paper “Navigating the E-Literary” (Ravenstein Seminar 2015) that text and paratext are so intertwined in the age of digitisation that one cannot help to get into a book's paratextual field. This is not to say that there was no paratextual field before, or that it was not accessed. However, the obviousness (almost inevitability) of the inclusion of paratext in reading (i.e. parareading) is new and is a result of reading on or close to interconnected digital devices. Parareading is thus truly something of the digital era.

The (naturalness of the) extension of one’s reading is of course more than looking for definitions and highlighting. The internet has made it easy to look up reviews, interpretations of others, information about the author, and book summaries and analyses (all students of English literature know Sparknotes!). The fact that websites such as Goodreads, Sparknotes, Shmoop, Amazon and Google Books are visited so often by readers is strong evidence that reading is definitely not dying — something that print pessimists may declare. Collins argued that it is clear from the growing popularity of book clubs and e-reading devices that it is going well with readers. What signals this popularity even stronger, I would say, is the interest in the para of parareading: people are not only interested in reading but also (perhaps especially) in all the extras that come with reading. Since many of those extras involve paratext, it means people who pararead today read more than just the book.

When we consider Dan Hassler-Forest’s transmedial story worlds, we could almost start to imagine that the parareader never stops her
reading. From Matt Hill’s *Fan Cultures*, Hassler-Forest borrows the term “hyperdiegesis” (Hills 137) to explain the potential of transmedial story worlds to be endlessly expanded, which means they have no narrative or medial closure anymore. Consequently, what used to be the traditional ending of reading a book (i.e. finishing and closing the book) is now the start of the parareading process. She starts looking for more information online. There, firstly, she may be confronted with an expansion of media on which the book’s narrative (or only story world) take place. Secondly, due to the hypertextual nature of online text, she may ‘never’ stop reading the book’s paratext, in the sense that there is no closure or ending to it. Reading about the book fluidly transitions to reading about other related things, on to unrelated things, which is all part of the same reading sitting. Consequently, the parareading that goes along with simply reading can end up very far from the original domain of the book. This is a linear process: one subject of reading follows the other. Of course, what is also possible is that (para-)reading is done more or less simultaneously with other things, because of the multimedia options of the devices on which the reader reads or which she always has near her (many people have their smartphone perpetually close at hand nowadays). As Collins has argued in an interview conducted by Ben de Bruyn: “with the e-reader in hand, they’re a reader, they’re a listener, they’re a viewer, they’re a curator all at the same time” (Collins in De Bruyn 2013: 205). Being a parareader not only means that one is likely to be exposed to different medial paratexts of the book but that it is an almost obvious part of the reading process. Parareading entails that the reader extends her reading and, in fact, adds to it herself. (The latter point will be discussed further below, when we look at the side by side, or social, parareader.) Therefore, it is indeed the case that on the one hand, parareading means reading that branches out in different directions (Felski’s idea), but also reading that shares its space with other activities such as shopping or watching films (Van der Weel’s idea).

The fact that this space is now shared (i.e. this space is not exclusively dedicated to book-reading anymore), may have both positive and negative effects. Positive effects of access and sociability will be discussed in more detail under the abnormal-parareader and side-by-side parareaders. Here, let us look at issues of privacy. Consider Felski’s following statement in the light of parareading on internet-connected devices: “Reading is far from being a one-way street: while we cannot help but impose ourselves on literary texts, we are also, inevitably, exposed to them” (3). Seeing as literary texts are so interwoven with paratext, we also cannot help to be exposed to paratext — much of which can be found online. Parareading brings the parareader into the public domain, which results in the public exposition — as Moniek Kuijpers showed in her Ravenstein paper of 2015 — of very “intimate, private reading experiences”. While these social aspects of the parareader will be discussed in detail further below, here we may wonder about the possible dangers of this (perhaps over-)sharing for two reasons. Firstly: slowly, all of us “newbies” of the digital are learning not to put private information

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3 Although, as Collins argues, text and paratext are getting so intertwined that the reader is likely already confronted with or looking for a book’s paratext before or during reading the book.
online, since A). it is there to stay and B). it is often abused by corporations for e.g. advertising purposes. In discourse on internet privacy, this mostly concerns photos and one’s personal interests. However, something as intimate as a reading experience can also offer many details (nuances) of a person’s preferences, ideologies and ideas. If they are not tapped into now, they may be in the future. After all, the internet is not going anywhere, and neither is advertisement. Secondly: not everything you read on the internet is true, which is a realisation not yet shared by everyone, who may therefore allow their reading interpretations to be influenced by badly or even incorrectly argued ideas. More on this below.

Empirical research on digital reading done so far claims that readers’ attention spans are affected (shortened) by the increase in digital reading, because of screen reading but also because digital reading is both complemented by and interrupted by everything that is included in parareading as described above (such as sharing a space with shopping and watching films, and easily leading to the parareading of irrelevant paratext and beyond). From the perspective of in any case the literary community, with its love for close reading, the shortening of the attention span is an unwished for development. As Van der Weel describes it, it is one of the unintended effects of a device (the Universal Machine) created for other purposes (Ravenstein Seminar 2015).

If attention spans of all parareaders will indeed be shortened on the long term, that would be a shame. However, I think we should consider the idea that digital reading has become popular much faster than our ability to adapt to it. While many people have happily or grudgingly accepted the “annoyance” of having to read off a screen in return for all the benefits of the e-reader, the reading skills of most people have not yet adapted to reading off a screen. Digitisation is happening in universities, high schools and primary schools — but not yet an adaptation of teaching that supports and improves digital reading. Teaching reading is still largely print-only territory. While fields such as the Digital Humanities demand a review of print-based theory (among which literary theory) and new methodologies (such as Katherine Hayles’ Comparative Media Theory), it seems that making similar demands for review of print-based reading education may be less obvious.

Even without teaching, however, the idea of epigenetic change dictates that we may develop screen-based reading skills ourselves: “evolution can now happen much faster, especially in environments that are rapidly transforming with multiple factors pushing in similar directions” (Hayles 10-11). There is a exponential growth of reading off screens — not only books and paratext but far more, such as advertisements on billboards and in stores, television, and all different shapes (PC, laptop) of the Universal Machine. If all these “factors” keep pushing in the direction of screen culture, our reading will keep adapting. The question is: how?

That is why projects such as the COST Actions “Evolution of Reading in the Age of Digitisation” (lead by Prof Dr Van der Weel and Dr Anne Mangen) are so valuable. Before judging and despairing over the effects of digital reading, it needs to be empirically verified what is actually happening with readers and reading. What does it mean to pararead, what are the effects, and why? On the basis of that, strategies can be developed
and tested to see if digital reading can compete with print reading in terms of focus and attention span.

Moreover, it needs to be taken into account that parareading is so much more beyond the text. Readers — amateurs and experts — not only require good close reading skills but also (perhaps more importantly at this moment) good skimming skills to select what paratext is relevant and important. In her recent publication *Ethos and Narrative Interpretation*, Liesbeth Korthals Altes discusses the controversy of truth and lies around Frey’s autobiography *A Million Little Pieces*. In her view, the author is not so much to blame for the ambiguity he has created. Rather, she advocates that “what deserves to be developed [...] is readers’ hermeneutic capacity, which includes the capacity to argue for their interpretations, as well as their ability to discern *playing with frames* from deceptive cuing” (2014: 115). Seeing as there is so much paratext which is — to make it even more complicated — hypertextual, having the reading skills to understand what to read and what not to read, what to believe and what not to believe, is an essential part of the reading toolkit of the contemporary parareader. Thus, even if parareading gives more options, it does not imply which reading options are “correct”, or at least the best for the reader's situation. This means that the unskilled parareader may not be reading the most effective texts, in the most effective way. However, as Collins quotes Perkins in *Bring on the Books*: “The *habit of reading* is indispensable. That habit once established it is a recognised readers go from poor to better sorts of reading” (sic, 2010: 106). While Perkins is concerned with the quality of the text here, this idea can definitely be stretched towards parareading skills. First, let us look at how the parareader is doing right now.

**THE ABNORMAL-PARAREADER: NO READING IS “NORMAL” READING.** There may be normative ideas about what reading is and should be but there is no normal reader or normal reading in the age of digitisation. When there is no normal reading, all reading is abnormal, hence the abnormal-parareader. Collins sees a huge increase in the amount of amateur readers who, encouraged by public figures such as Oprah, claim agency over what they read and how they read it: the norm is no longer set by literary scholars or critics. He sees that there is a “move to convince amateur readers that somehow literary fiction was intended for them, that you didn’t have to worry about performance anxiety” (Collins in De Bruyn 2013: 194). This means that, with whatever motivation or on whatever level a reader reads, “populist readers and modernist readers can apparently lie down together in the bosom of bibliophilia” (Collins 2010: 85). In *Bring on the Books*, Collins notes two types of readers when he involves Heath in his discussion of Franzen’s response to Oprah’s selection of his book for her book club: the solitary reader and the social reader (108). The social dimension of parareading will be discussed further below, where I will show that it is difficult in the digital era to keep one’s reading isolated. Here, though, let us continue to look at more than just a binary distinction between types of readers. As Felski argues, “readers are heterogeneous and complex microcosms: socially sculpted yet internally regulated complexes of beliefs and sentiments, of patterns of inertia and impulses towards innovation, of cultural
commonality interwoven with quirky dispositions” (18). This is not new, of course, as reading in terms of interpretation has always differed (more or less) between readers. However, what is new is the high degree of personalisation that is made possible in the way readers read. There are many more or less beautiful printed editions of (especially popular) books, and of course there is always the difference between hardcover and paperback. The clearest and easiest personalisation happens, however, on e-reading devices.

In his 2015 Ravenstein keynote, Collins called the reader’s device (e-book, tablet, smartphone, laptop) her “personal cultural space”. The conditions determining her reading experience in terms of space are thus not restricted to actual personal or private spaces anymore: she can access her personal cultural space anywhere. Her personalised device “gives e-reading its own mise-en-scene, with its own temporality and its own space” (Ravenstein 2015). Consequently, the (amateur) reader does not only get encouragement from new “literary authorities” (public figures) (on how) to make reading personal, her device can cater to her personal preferences as well.

When reading is made explicitly personal, so dependent on the reader, parareading adds even more differentiation between readers — and especially between readings. During the 2015 Ravenstein Seminar, Michael Burke proposed four fluvial stages of reading that flow into each other: pre-reading, reading, post-reading and non-reading. These stages all have influence on the reading process, he argued, which means that even the same reader will approach the same text differently each time. For the individual reader, there is thus no normal reading; let alone if we start comparing between different readers.

We have discussed the device as offering a very personal space for the reader which stimulates different — and thus never “normal” — readings. However, as Collins argues, the e-reading device is also hypersocial: it is connected to the internet and thus to many other readers. “[T]he e-reader as screen-archive-portal offers the reader the pleasures of both hypersocialization and hyperpersonalization” (Collins 2013: 211). This is paradoxical of course, and the potential negative effects of this (making the private and personal public) have been discussed further above. Here, then, we continue to discuss parareading as hypersocialisation.

THE SIDE BY SIDE-PARAREADER: YOU NEVER READ ALONE. While parareading is easiest when a reader reads on a tablet or e-reader, it is not restricted to these devices. I’ve shown how this works for the beyond-parareader and will now do the same for the side by side-parareader. People have always talked about books, of course, but this book talk now happens in special reading groups both in real life and across media. With Hassler-Forest’s transmedia storytelling comes transmedia parareading (and -watching and -listening, but these will not be discussed here). Both within and outside of established reading groups, readers share their reading experiences on platforms such as Goodreads and Amazon. Parareaders exchange interpretations and ideas not just on the basis of the book but also about e.g. the author, the book’s cultural/historical context (especially with older books), and what may be beyond (in the diegetic sense) what is told in the book. Consequently, even
if one is not explicitly part of a reading group, one is part of a community of parareaders, and often parawriters (adding to the paratext on the book, which is again read and responded to by others). Being part of such a community does not require activity or active sharing on everyone’s part. Sharing someone’s opinion does not require voicing your own. Simply having someone say what you think or feel can already feel like (social) confirmation. While Brooker talks about fan groups when he says that the key appeal of being part of such a group is “the sense of being part of a community, of sharing an enthusiasm with others who will understand” (Brooker 863), this idea may be expanded for parareading. One is very easily part of an online community, by being what is called a “lurker”: a silent onlooker to the ongoing exchange. Lurkers can be members of real reading groups but much more so of online public exchanges about reading. No wonder then that, as Hassler-Forest argues, more and more people have the feeling that they are part of the participation culture that surrounds transmedia stories (Hassler-Forest 2013: 142). Even if one does not add, one is part of the social circuit of the paratext. Being part of that social circuit, especially if one is part of an official book club, can be argued — is argued by Oprah, in any case — to offer yet another dimension to one’s personal reading experience. "it is worthy of reading because ‘all of us’ are reading it together … even if they have read The Good Earth before, they should read it again, because reading it together with other Clubbers, facilitated by Oprah, will produce a profoundly different experience from any previous, un-facilitated reading” (Collins 2010: 102).

While it is already rewarding to be a lurker, contemporary reading culture stimulates active participation and contribution: it is made easy by making it small. A reader can "like" other people’s reviews on Goodreads (as one “likes” posts on social network Facebook) and is stimulated by small text forms under other people’s reviews to make small responses. Many book authors can be found to participate in discussions on Goodreads but also on Twitter and Facebook. The threshold to get into contact with fellow readers and even authors has been made smaller, even if contact just means that one "likes" or "follows". Some authors even carefully cultivate their online readership, such as John Green on his Tumblr page Fishing Boat Proceeds.

As with the beyond-parareader, the discussion of side by side-parareader must also be ended by considering some doubts. Reading is socialised, indeed, but is the reading experience really socialised through talking about it or reading about it? Ben de Bruyn argued in his 2015 Ravenstein paper that this move towards socialisation, particularly in media, is omnipresent. Socialisation it is easily done with media such as film and music: one can share the experience temporally, that is, at and in the same time. One can make a comment about what just happened, what others have also just experienced, even if others may have experienced it in a different way. One can never share a reading experience like that because everyone reads at different speeds. Sharing a reading experience temporally is very difficult; it could almost be argued that it is impossible. One can thus only say that Collins is right when he says that “What used to be a thoroughly private experience … has become an
exuberantly social activity” (Collins 2010: 4), when we consider that this is about parareading. Parareading is indeed an activity, something beyond just a passive experience, and that activity is social.

BEFORE MOVING ON TO THE CONCLUSION, I feel some attention should be paid to how the para (the beyond, the abnormal, the side by side) of the parareader is embedded. For the most part, para seems to be positive: there are more and new kinds of reading, new groups of people are introduced to reading both highbrow literature and books catered to them, and people “find each other”, feel part of communities, by sharing reading experiences. On the other hand, the level of reading skill may go down in terms of deep focus, and the level of reading skills may go down because reading shares its space with (competes for space with) e.g. shopping and films. What is gained in breadth is then lost in depth. Furthermore, both Hassler-Forest and Collins pay some attention to the commercialisation of this space, which may also not be a healthy development when we consider reading and parareading skills. It may feel like culture and industry are getting more and more intertwined, just like text and paratext. Or is that a paranoid-parareader kind of thing to say? When considering parareading in this commercial light, I fear that parareading may be changing from a supplement of reading into the reason for reading: no l’art pour l’art but l’art pour para. A reader’s reason for reading may be to see what all the paratext is about, it may be social, it may be to have an excuse to buy a tablet because that really enriches your reading experience. While Perkins (in Collins) makes a great point in saying that the reader must develop the habit of reading before she will move on to “better” reading, the question of how that moving on will be established is not answered — not even asked, in fact. This is, then, where the literary academic can come back in again, as I will discuss below.

IN CONCLUSION, THE PARAREADER READS BEYOND, READS ABnormally, AND READS SIDE BY SIDE. The domain of reading has at the same time spread out and has become more close-knit, thus becoming a domain of and for parareading. This domain includes more paratext, which grows each day in amount, and it actively works to include more and new groups of readers by addressing them very personally. Jim Collins’ title Bring on the Books becomes an mantra not just “For Everyone” but also “Everywhere” and “All the Time” thanks to the transmedial nature of reading, especially of reading on our interconnected devices. Bringing on the books like this diversifies readers and reading habits on the one hand, but it also makes reading more of a mass-phenomenon, which is not to everyone’s liking. Collins notes how Fialkoff calls Franzen’s dismissal of the Oprah book club a waste because he “may have helped elevate the reading taste of some of those viewers” (in Collins 2010: 107). If one — such as the literary academic — wishes to be a guard against reading (also a kind of parareader!) in the contemporary parareading culture, one’s response to this culture cannot be dismissal: one has to enter into a dialogue. The guard-parareader, too, becomes part of a participatory transmedial reading culture.

But. As with each of the previous paragraphs, there is a but. Throughout this
portfolio, you — the reader — may have wondered about the idea of the parareader. Is it justified? How many parareaders are there actually? Is reading really intensely paratextual, diverse and social, much more so than before? When looking at the mainstream, my answer would be: yes. However, there are of course always those (groups of) people who desperately try to stay out of the mainstream, who do not have a smartphone, no laptop. And there are those people who are simply too slow, for different reasons, to move along with the stream of digitisation. For these people, parareading is likely still mostly reading.

Nevertheless, considering the speed with which readers and reading have changed, the speeds that these developments take, one could expect that these unconnected, truly solitary readers will become increasingly rare. (Think back to Hayles’ epigenetic changes mentioned when discussing the beyond-parareader.) Is this change good or bad? As Adriaan van der Weel repeated throughout his 2015 Ravenstein paper: it is neither, it is simply change which we cannot stop. However, we are in a position right now where we can steer the discourse about reading and about the education of reading. As academics, we need to take the metahermeneutic perspective that Korthals Altes advocated in her 2015 Ravenstein paper: we need to look what attitudes there are of readers and of reading. Of course, part of this is to look at our own attitudes when we deal with these issues. It is easy to value our own educated interpretation and opinion on books and literature over those of “amateur” readers, and dismiss their reading experiences as less valuable or meaningful. However, in this new parareading culture, 1). it is not just for academic literary authorities to decide anymore what kind of reading is meaningful anymore and 2). if we want to help amateur readers to read well, we need to get involved in their (increasingly para)reading. Amateur readers have been encouraged to take, and have taken, their own public fora, offering everyone, including researchers, readings of an intimate, personal nature. They are happy and confident to share and discuss their interpretations. Benjamins, Nagtegaal and Van Voorst note in their research on reading groups in Drenthe, the Netherlands, that members of these groups consider that their analyses have an above average literary level. Despite the fact that the main reason of their membership of reading groups is recreational, their reading attitude is serious (206). We academics should take their reading attitudes serious as well. Even if they need Oprah’s book club to start reading Anna Karenina.
BIBLIOGRAPHY


