

# The Evolution of Reading in the Age of Digital Technology

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# Inspiration ...



## COST IS1404 E-READ

Evolution of Reading in the Age of Digitisation

Anne Mangen, Ph.D.

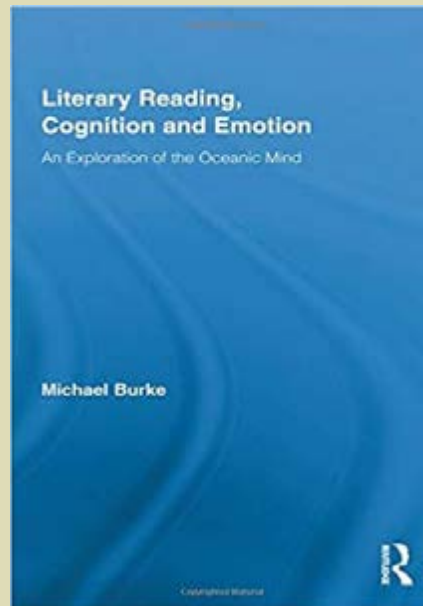
Associate professor, The Reading Centre, University of Stavanger, NO



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# *Literary Reading, Cognition and Emotion: An Exploration of the Oceanic Mind (2011)*



# Aspects of the literary reading experience

- *The role of place/location*
- The role of the medium
- The role of time
  
- The role of style
- The role of structure
- The roles of themes
  
- The role of pre-reading cognition
- The role of pre-reading mood

# Place/Location ...

You may like to read like this ...



... or like this



... or even like this???



... or this????





... or this?????



... or even this??????????



# Today's session - Structure

- 1. Where and when did reading begin?
- 2. Where is reading at now anno 2022?
- 3. How might reading evolve in the coming century with the advent of digital technologies?
- 4. What effects might this evolution have on the nature of human memory, comprehension & emotion?

# 1. Where and when did reading begin?

How did reading start?

Where did it come from?

How has it evolved over time?

# A livestock receipt in Sumerian Cuneiform script



- 5000 years ago
- The beginnings of writing and reading
- ‘Cognitive offload’

# The Scroll ... (the proto-book)



# The paper medium ... Papyrus



# The paper medium ... Parchment





# The ancient libraries of Alexandria & Pergamon



- Scrolls
- Reading aloud
- Very noisy



# The development of reading in the West

- Christian books in monasteries at first
- The invention of the printing press (Gutenberg 1440)
- Books and personal libraries for the wealthy few for many years (e.g. Samuel Pepys, 1660s)



# The advent of the paperback ...



- Cheaper, lighter books sold at train stations (1920s)
- Penguin / Woolworths

2. Where is reading at now anno  
2022?

# A hybrid state of print and pixels – (books and screens)



- 1990s - The impending death of the book announced
- 2007 Launch of Amazon e-reader 'Kindle'
  - E-ink, not LED (= new invention)

But bookshops are still (by and large) flourishing ... and online certainly too



# However ....the *(death of the)* E-Reader announced in 2019



# Folding/bending screens (ergonomics) haven't helped stop the demise



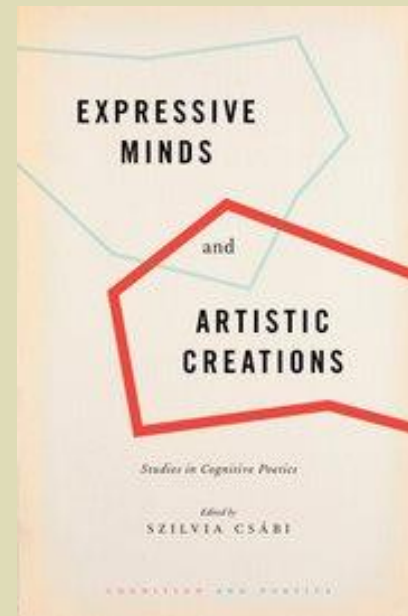


The smell of old books (olfactory) – “Spray it on your device” hasn’t helped either



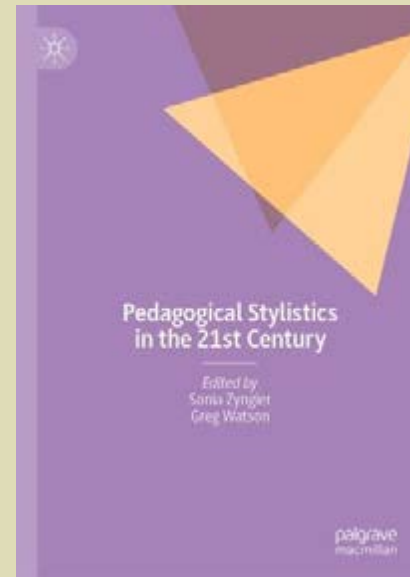
# A study of reading habits I

- *The Locations and Means of Literary Reading*
  - Michael Burke & Esmeralda V. Bon



# A study of reading habits II

- *Devices, Settings and Distractions: A Study into How Students Read Literature*
- Esmeralda V. Bon & Michael Burke



# Abstract



- The question of how and where students read has been a subject of discussion, not least due to the rise of e-reading devices and an increased need for remote learning. Reports in mainstream media often report that there appears to be a decline in traditional ways of reading literature
- With this study we test this assumption. We focus on reading means and locations, asking how university students read literature electronically. We interview a sample of undergraduate students and ask them to fill out a survey
- Our findings indicate that students still engage in ‘traditional’ literary reading behaviour. While they do make use of novel literary reading locations and devices, they mostly use digital devices out of necessity and aim for locations where reading is comfortable
- Furthermore, they are not post-hybrid readers: they do not use multiple devices for reading the same story. Therefore, overall, their literary reading behaviour is more traditional than assumed

3. How might reading evolve in the coming century with the advent of digital technologies?

# A question (posed to my Utrecht University Master honours students in 2019)

- How will we be reading in 2122, and why?
- Two groups:
  - 50% humanities and social sciences students
  - 50% Hard sciences and technology students

“Readers in the future will be as scarce as roof-thatchers are now”



# Advancing technology – *Writing*

## *The Telegraph* - 26 August 2019

- Now that robots can fake handwriting, what value will a love letter have?
- [Laurence Dodds](#) US Technology Reporter, San Francisco





# Elon Musk's Neuralink unveils brain implant technology, to seek human trials in 2022



# We are already living in a voice-controlled, spoken technological world



- So what can we realistically expect, in the short term, if writing and reading are on the way out?



# The return of the rhetorician & the Storyteller



- From writing to speaking and from reading to listening
- Back to where we were 5000 years ago?
- Some advantages – e.g. the eradication of illiteracy in the poorest parts of the world (i.e. levelling up?)

# Visible changes in the immediate term .... The resurgence of the audio book



# A covid/lockdown boost too

<https://www.theguardian.com/books/2020/aug/02/a-word-in-your-ear-why-the-rise-of-audiobooks-is-a-story-worth-celebrating> 2 August 2020

- Why have audiobooks done so well during lockdown, particularly given that no one is commuting any more?
- “Being read to is a really intimate and comforting thing,” ... “a human connection at a time when a lot of people are feeling isolated from one another.”
  - *Duncan Honeyman, senior commissioning editor at Penguin Random House*
- “You can buy and download a whole digital audiobook in an instant so you can start listening immediately, and you can multi-task so you can listen on your daily exercise, or while you’re cooking or doing the housework.”





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# 4. What effects might this evolution have on the nature of ... human memory, comprehension & emotion?

... And what are scientific studies telling us already about this process?

# Findings - COST E-READ Stavanger

## Declaration on **The Future of Reading**

- 1. Readers are more likely to be overconfident about their comprehension abilities when reading digitally than when reading print, in particular when under time pressure, leading to more skimming and less concentration on reading matter
- 2. A meta-study of 54 studies with more than 170.000 participants demonstrates that comprehension of long-form informational text is stronger when reading on paper than on screens, particularly when the reader is under time pressure. No differences were observed on narrative texts



# Findings - COST E-READ Stavanger

## Declaration on the Future of Reading

- 3. Contrary to expectations about the behaviour of 'digital natives', such screen inferiority effects compared to paper have increased rather than decreased over time, regardless of age group and of prior experience with digital environments
- 4. Our embodied cognition (i.e. that how and what we learn, know, and can do depends on features of the entire physical body) may contribute to differences between reading on paper and on screen in terms of comprehension and retention. This factor is underestimated by readers, educators and researchers.

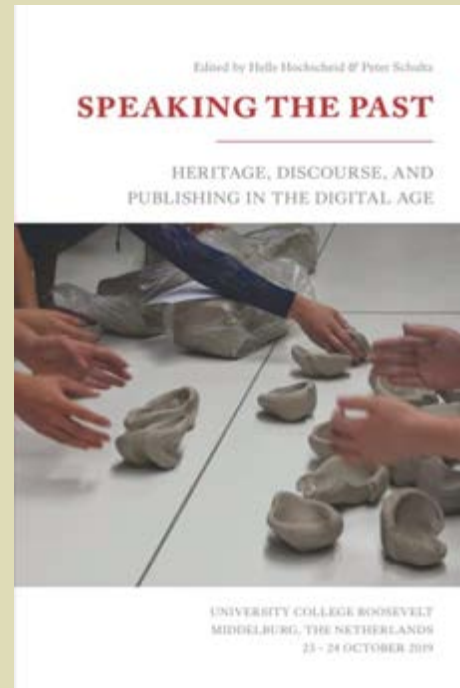
# Some recommendations for now ---

## - Towards a managed/informed transition

- 1. It remains important that schools and school libraries continue to motivate students to read paper books, and to set time apart for it in the curriculum
- 2. Students should be taught strategies they can use to master deep reading and higher-level reading processes on digital devices
- 3. Teachers and other educators must be made aware that rapid and indiscriminate swaps of print, paper, and pencils for digital technologies in primary education are not neutral. ---- Unless accompanied by carefully developed digital learning tools and strategies, they may cause a setback in the development of children's reading comprehension and emerging critical thinking skills
- 4. The arts, the social sciences, the hard sciences and the technical sciences must work together – with policy makers and industry - to find appropriate solutions

# A chapter to be shared based on this talk

- *Of Paper and Pixels:  
Reading in Flux*
  - Michael Burke



# Selected references

- Bon, E. V. and Burke, M. (2022) '[Devices, Settings and Distractions: A Study into How Students Read Literature](#)', in *Pedagogical Stylistics in the 21<sup>st</sup> Century*, eds. S Zyngier and G. Watson. London: Palgrave Macmillan, pp. 183-206
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