

# Why is a book?

The fate of writing, reading and thinking in  
a world of digital scholarly communication

**Adriaan van der Weel**



**Universiteit  
Leiden**  
The Netherlands



**The ideal of Open Access is less  
conducive to scholarly communication  
than we like to think**

# Digitisation of reading

- More reading than ever but very different
  - 1. **What:** fewer books [statistics]
  - 2. **How:** faster and more superficially [evidence?]
- Role of digitisation in **how**? [Carr]
  - Two decades of research remained inconclusive
- E-READ meta-analysis on paper-based vs. digital-based reading comprehension

# Meta-analysis Pablo Degado et al. 2018

- 54 Studies
- 76 Print vs screen comparisons
- 171,055 Participants
- 19 Countries

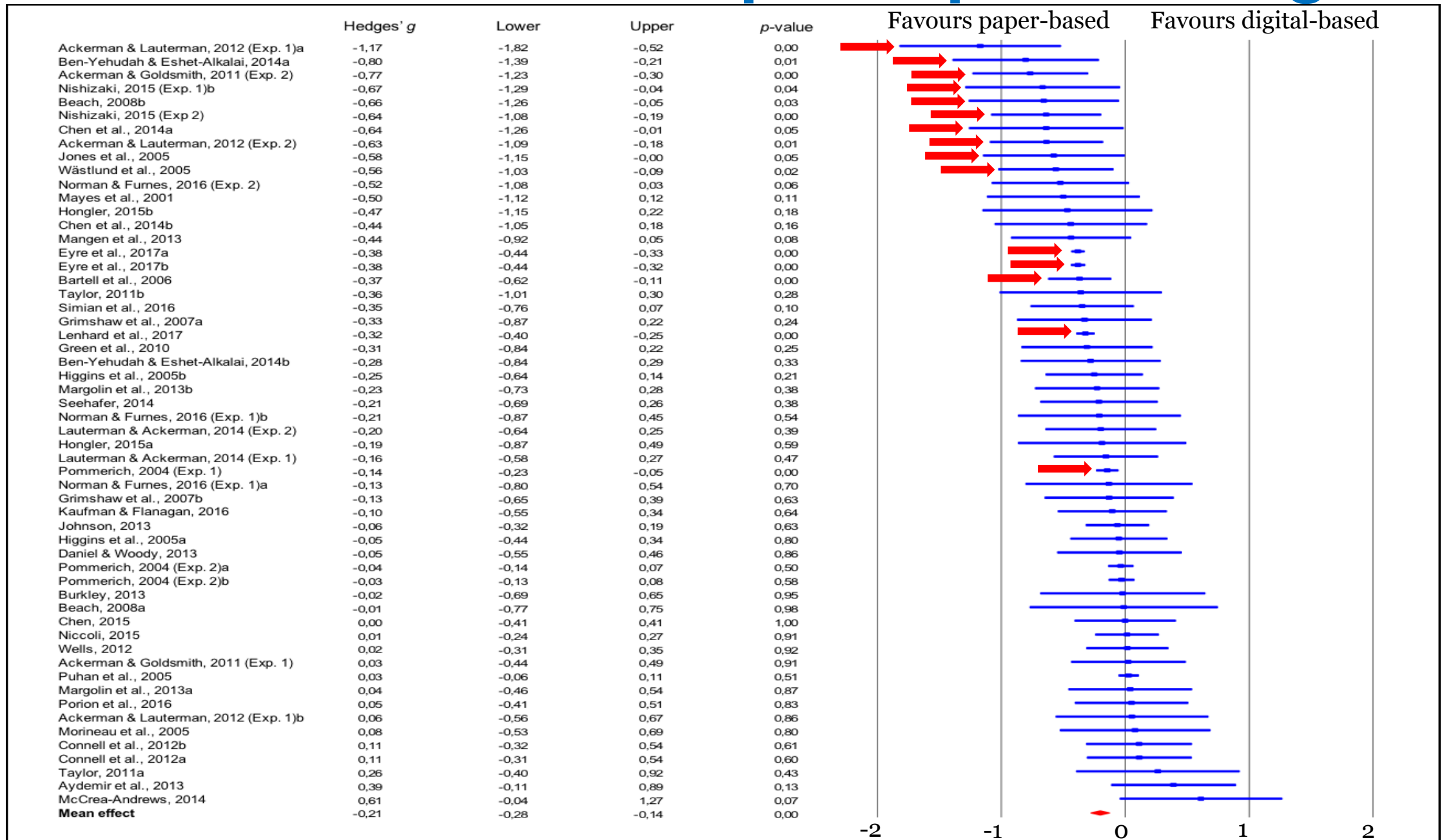
# Influencing factors

- Participants' current educational level
- Text length
- **Reading time allowed for reading**
- Type of digital device
- **Text genre**
- Scrolling
- **Year of publication/presentation**

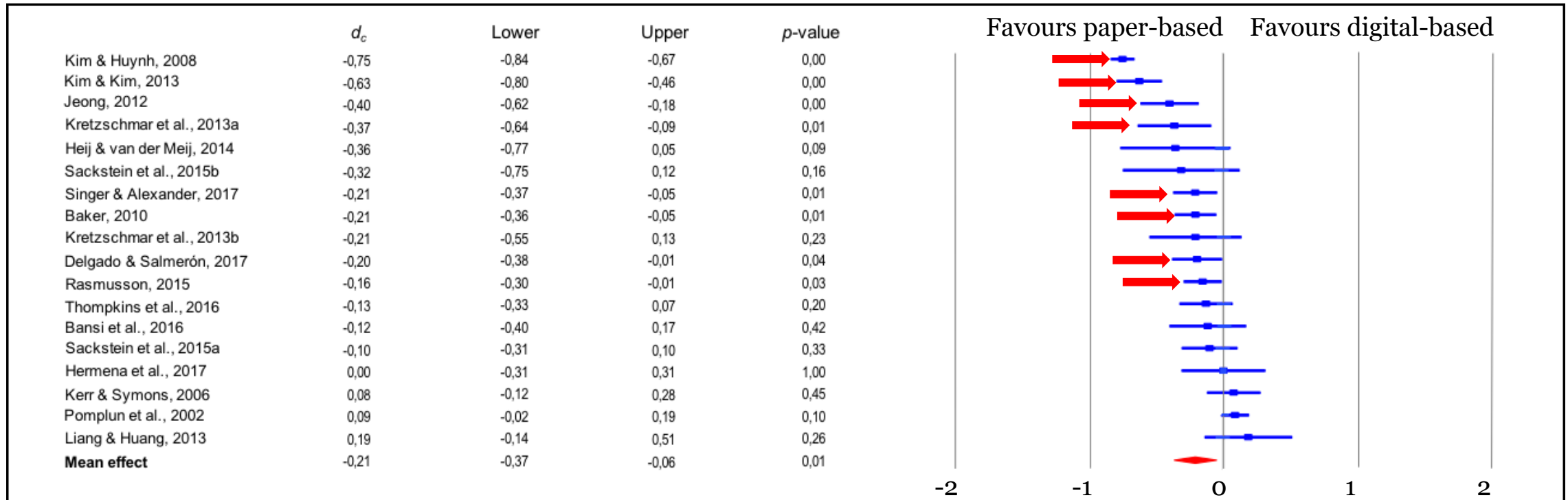
# Overall reading media effect

- Significantly better reading outcomes for paper-based reading
  - Effect size Hedge's  $g = -.21$ ,  $dc = -.21$

# Effect sizes: Between-participants designs



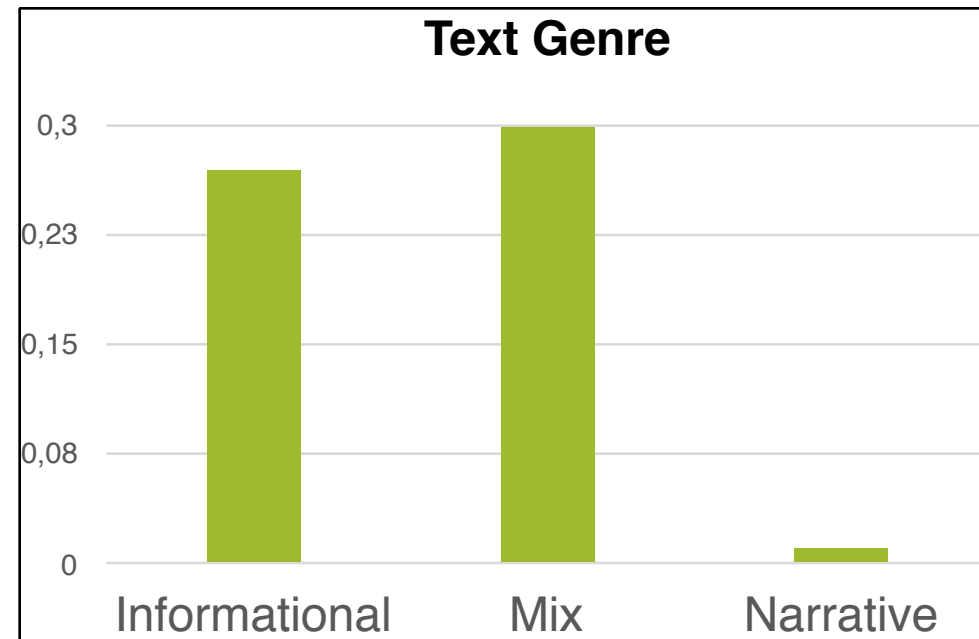
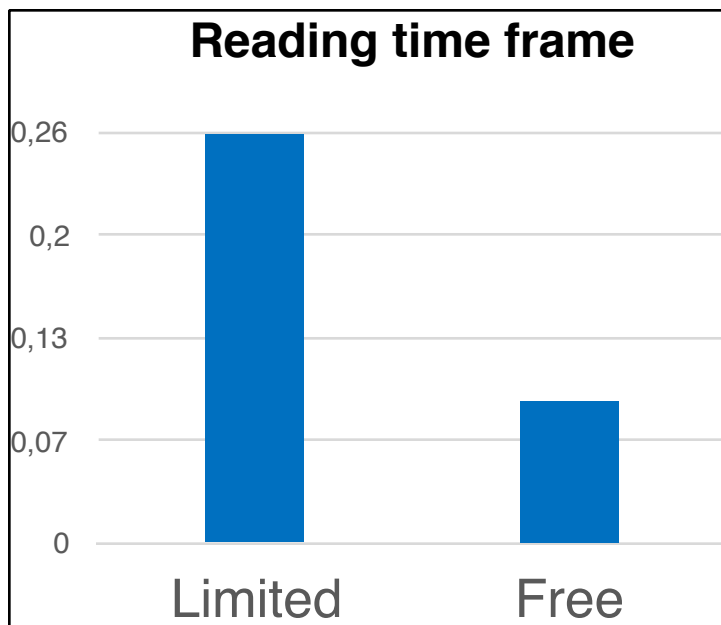
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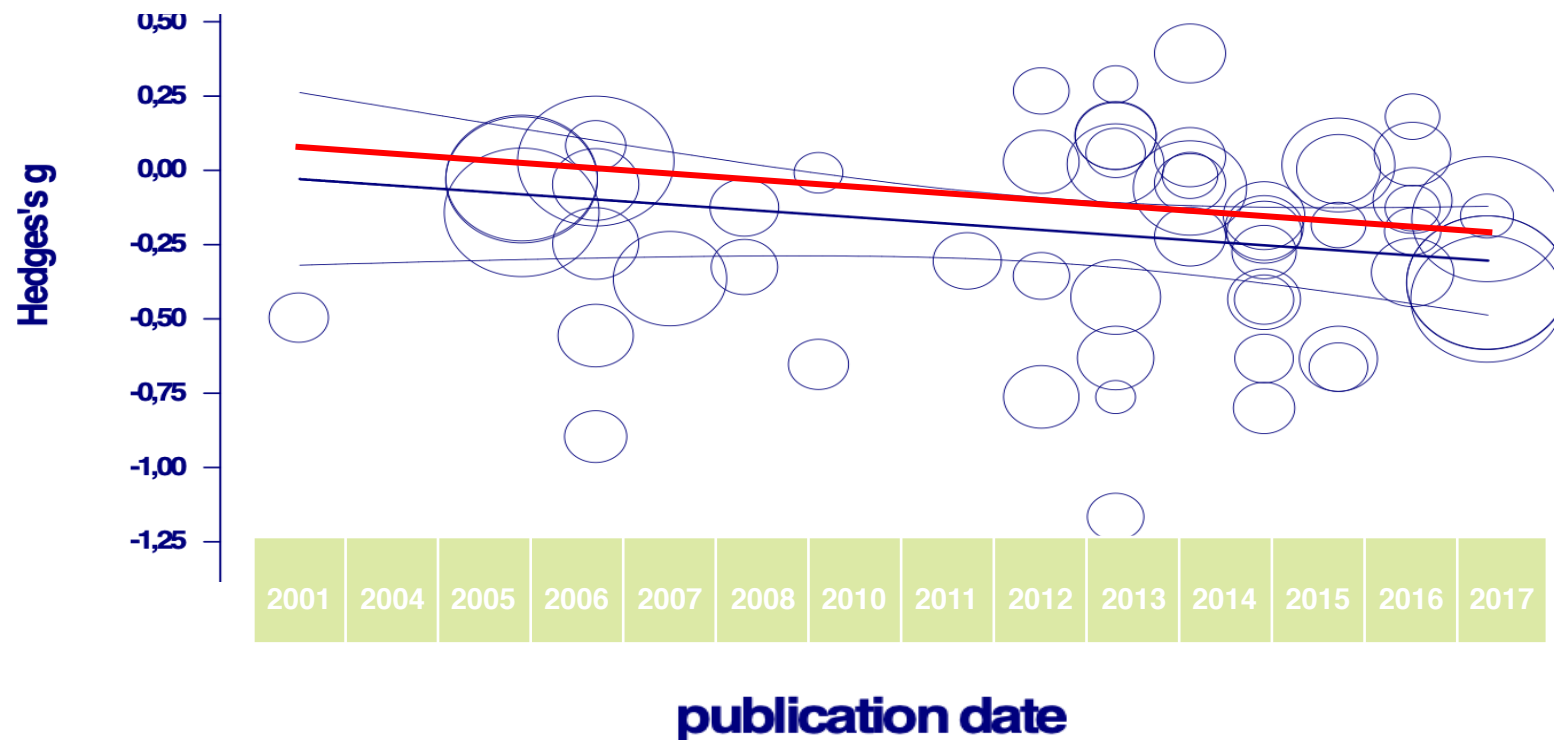
# Variables influencing the medium effect

- Disadvantage of digital-based reading was statistically larger when:
  - Readers had time constraints to complete the reading
  - Readers read informational (vs. narrative) texts



# Variables influencing the medium effect

- Moreover, the digital disadvantage is increasing over the years



# Conclusions (1/2)

- On average, paper-based reading yields better comprehension outcomes, the effect being stronger for more complex texts
- Digital disadvantage is  $2/3$  of yearly increase in reading comprehension during elementary school
- 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 the text

# Conclusions (2/2)

- Contrary to expectations about the behaviour of 'digital natives', screen inferiority effects compared to paper have increased rather than decreased over time, regardless of age group and of prior experience with digital environments
- Support for the *shallowing hypothesis*
  - **Students' screen habits may interfere with deep comprehension needs**
- Digital environments may not always be best suited to fostering deep comprehension and learning

# Wider context

- [Little empirical research; no meta-analysis]
- **[What]** Amount of overall reading and writing
  - Social media, blogs, fanfiction, Wattpad, comments
  - Fewer long-form texts [reading statistics]
- **[What and how]** Hypotheses:
  - Scanning becoming the default reading mode
  - Algorithmic effects: Diversity and echo chamber

**Digitisation has a non-trivial effect on reading, both cognitively, in terms of memory and understanding, and in terms of reading behaviour**

- What about scholarly reading?

# Scholarly reading

- Very little research done [!]
- Shares many characteristics
  - [How] [Comprehension?]
  - [How] Between 1977 and 2005 reading time spent per article went down from 48 to 31 minutes
  - [What] Downloads are often not read
  - [What] Decline in the use of monographs
  - *While the number of publications keeps increasing*

# So: similar to general reading

- Scanning as the default reading mode
- Less reading of long-form texts (books)
- Less diversity (algorithmic effects)
  - '[A]s more journal issues came online, the articles referenced tended to be more recent, fewer journals and articles were cited, and more of those citations were to fewer journals and articles' (Evans 2008)



# Also

- Emphasis on **technological** issues  
(discoverability, access and infrastructure)  
almost totally ignores **intellectual** ones  
(reading)
  - E.g., OA

# **In the ‘attention economy’ of scholarly reading, supply far outweighs demand**

- ‘The overwhelming majority of articles and books never get cited by anyone other than the author self-citing her own texts later on. Most of us have to master the art of writing into the void’ (John Cogburn)



# Symmetry or solipsism

- In need of a more fundamental discussion
- BUT: the trend towards ever greater imbalance seems wrong if the purpose is scholarly communication
  - Less is being read
  - What is read is read less well

# Is digitisation the culprit?

- Changing concept of knowledge (e.g., Lynch)
- Role of commercial parties like Elsevier
- Etc.

# How about research evaluation?

- Publications are counted but reading is not
- Should we start giving credit for reading as evidence of **communication**?