

Microsoft®



Microsoft®

Research Faculty Summit 2012

ADVANCING THE STATE OF THE ART

Will text decline?

Marti A. Hearst
UC Berkeley

Panel on “Next Generation Information Experiences”

Disclaimer:

In the spirit of the panel's assigned topic, this is a **forecast** based on what I observe of current trends.

Claim:

Enabled by technology, the role of **written language** is going to fundamentally change, and probably decline, in U.S. culture.

Observed Information Consumption Preferences

Novels

Movies



Marketing text

Marketing podcasts



Textbooks

Video lectures



Web news text

Web news videos



Memos

Powerpoint

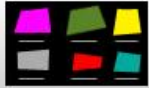


Blogs

Pinterest



Picture Stories



WHAT I REALLY... GENERATOR via Meme Generator

Recent



Food Studies



What Society Thinks I Do



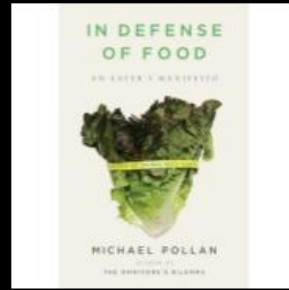
What My Friends Think I Do



What My Mom Thinks I Do



What my Professors Think I Do



What I Think I Do



What I actually Do

memegenerator.net



Video Lectures

Salman Khan: Let's use video to reinvent education

TED2011, Filmed Mar 2011; Posted Mar 2011



11:40 | 20:27

Share

Subtitles Available in: 37 languages [Off]

Interacti

Tweet this talk! (we'll add the headline and the URL)

Probabilistic Graphical Models with Daphne

Share

More info



Probabilistic Graphical Models

Daphne Koller

Natural Language Processing

Share

More info



0:07 / 2:10



YouTube

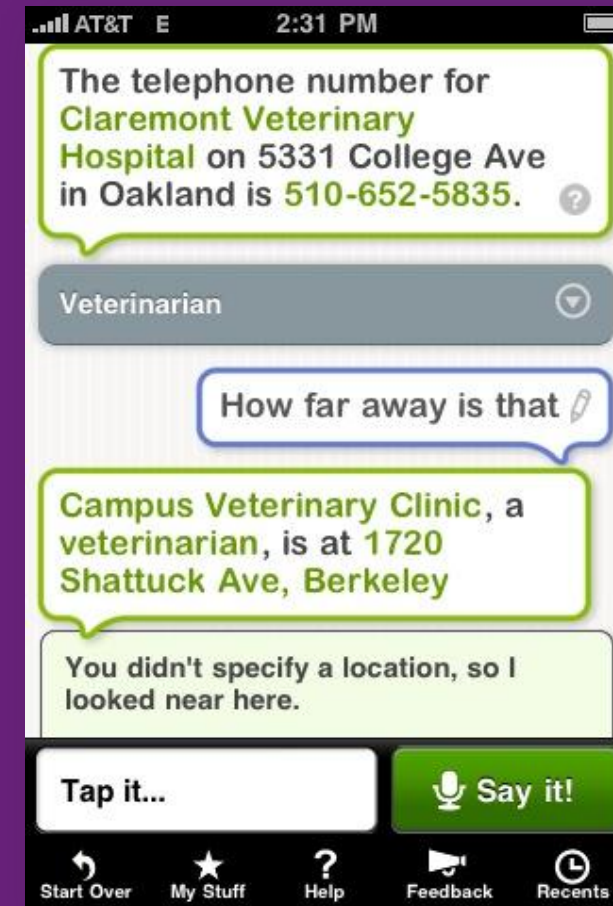
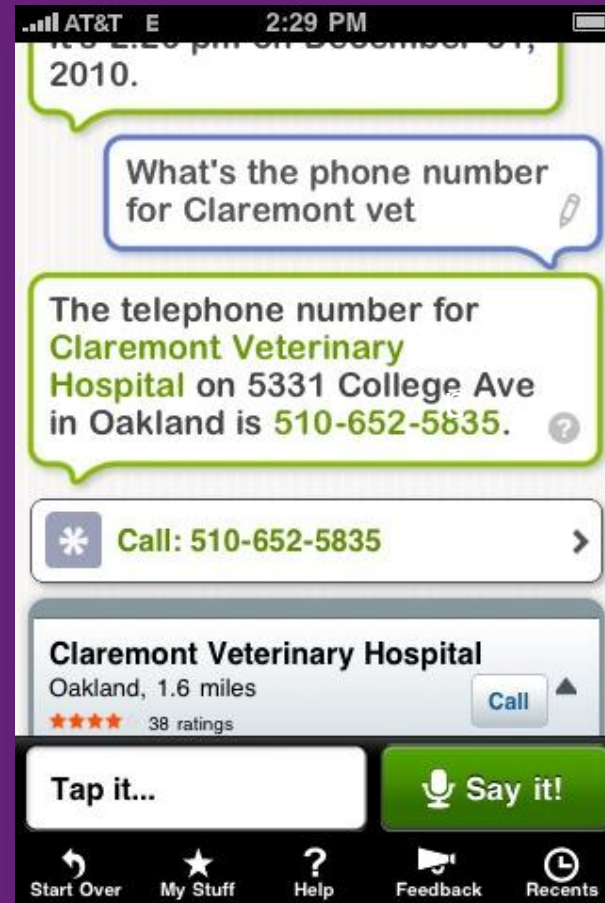


Video Thank You Notes



<http://www.khanacademy.org/new-and-noteworthy/v/thank-you-khan-academy>

Dialogue Combining Text, Audio and Images



Images from app formerly available from siri.com

Reading Tool Web Site With Little Text



Learn to Read with the #1 Selling Reading System*



Learn about Tag

Expert Review

TV Advertisement

See How Tag Works

Learn to Read and More

Learning Path

Play with

Tag

Explore 40+ Books,
Games and Maps

What Teachers
Say About Tag

Tag Junior
(for ages 1-4)

4-8
years

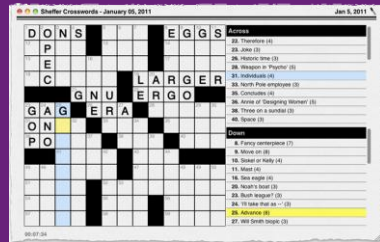


Interpreting Written vs Spoken Language

Advantages

Reproducible / Sharable
Scannable
2D Layout (Tables, Lists)
Computer Processible

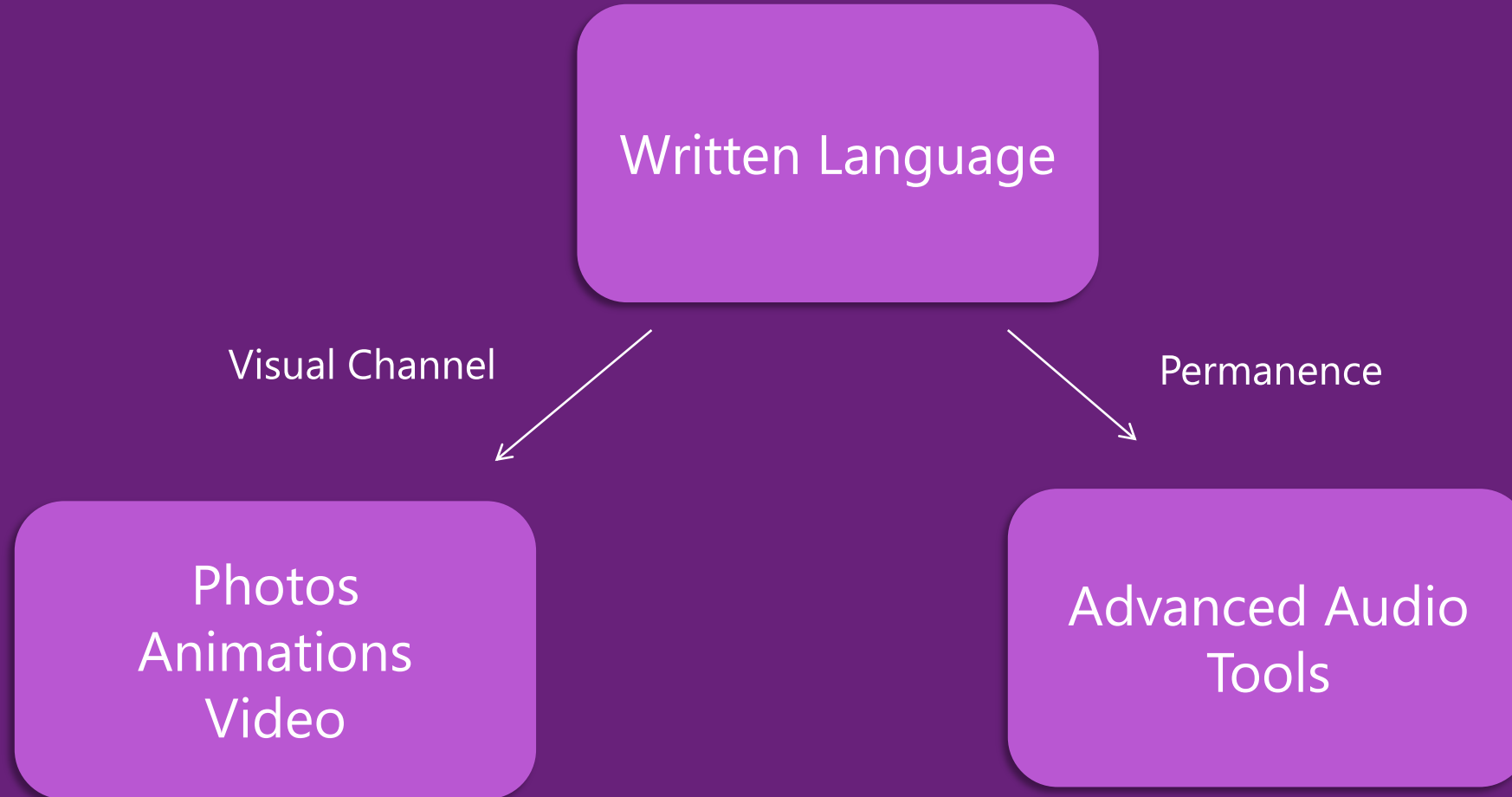
And don't forget ...



Disadvantages

Difficult to learn
Effortful
No prosodic cues
Not "eyes-free"

Written Language Loses some of its Advantages to Technology



Writing is becoming more like spoken
language ...

"It appeared that the narrative he had promised to read us really required for a proper intelligence a few words of prologue. Let me say here distinctly, to have done with it, that this narrative, from an exact transcript of my own made much later, is what I shall presently give. Poor Douglas, before his death—when it was in sight—committed to me the manuscript that reached him on the third of these days and that, on the same spot, with immense effect, he began to read to our hushed little circle on the night of the fourth. "

HENRY JAMES, TURN OF THE SCREW

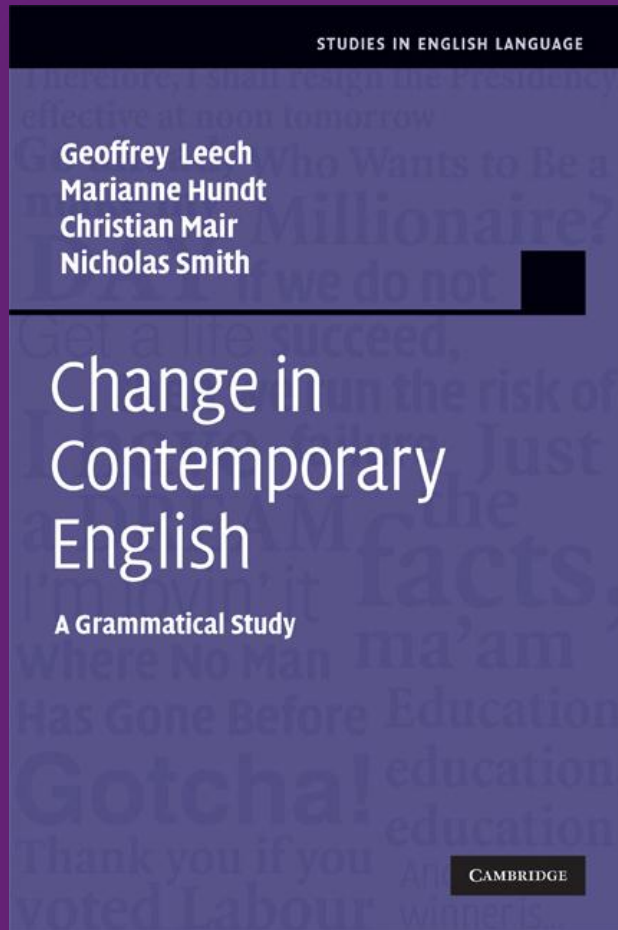
"My wife and I had called on Miss Stein, and she and the friend who lived with her had been very cordial and friendly and we had loved the big studio with the great paintings. it was like one of the best rooms in the finest museum except there was a big fireplace and it was warm and comfortable and they gave you good things to eat and tea and natural distilled liqueurs made from purple plums, yellow plums or wild raspberries."

ERNEST HEMINGWAY, A MOVABLE FEAST

"Like it if you like :D <http://fb.me/HNjmeseP>"

JONATHAN FRANZEN, TWITTER

Colloquialism in Contemporary English



“In the course of the 19th and 20th centuries, popular written registers like letters, fiction, and essays have reversed their direction of change and evolved to become more similar to spoken registers...”

Text will not disappear, but will be shorter, and play more of a supporting role ...

Forecast: The Future Roles of Text

Continue

Signage

Markings / Landmarks

Very brief exposition

Helper text

Legal / Analytic

Decreased?

Stories / Narrative

Expository


Interpersonal communication

Instructions

Education

So ...what are the research questions?

Innovation with Audio Tools in ICTD



The screenshot shows the IBM Spoken Web website. At the top left is the IBM logo. Below it is a navigation menu with 'Spoken Web' highlighted, and sub-items for 'Publications', 'Awards', and 'Videos'. To the right of the menu is a 'Related links' section with a list of links: 'IBM Research', 'Browse people', 'Browse projects/groups', and 'Browse interests'. The main content area features a large illustration of a man talking on a mobile phone, with a network diagram below it showing 'Voice Site' nodes and a 'VoiKiosk' node connected by lines. The diagram includes phone numbers like 4129 2265, 2226 4332, and 8300 4217. At the bottom of the screenshot, there is a caption: 'Spoken Web (a.k.a World Wide Telecom Web or Telecom Web) is a new technology to enable the illiterate and the underprivileged world to access the Internet through their mobile phones.'

Avaaj Otalo — A Field Study of an Interactive Voice Forum for Small Farmers in Rural India

Neil Patel¹, Deepti Chittamuru², Anupam Jain³, Paresh Dave⁴, Tapan S. Parikh²

¹Stanford University HCI Group
Computer Science, Stanford, CA 94025
neilp@cs.stanford.edu

²UC Berkeley School of Information
Berkeley, CA 94720
{deepti, parikh}@ischool.berkeley.edu

³IBM India Research Laboratory
New Delhi, India
anupamja@in.ibm.com

⁴Development Support Center
Ahmedabad, Gujarat, India
pdave68@gmail.com

ABSTRACT

In this paper we present the results of a field study of *Avaaj Otalo* (literally, “voice stoop”), an interactive voice application for small-scale farmers in Gujarat, India. Through usage data and interviews, we describe how 51 farmers used the system over a seven month pilot deployment. The most popular feature of *Avaaj Otalo* was a forum for asking questions and browsing others’ questions and responses on a range of agricultural topics. The forum developed into a lively social space with the emergence of norms, persistent moderation, and a desire for both structured interaction with institutionally sanctioned authorities and open discussion with peers. For all 51 users this was the first experience participating in an online community of any kind. In this paper we describe the design and implementation of the system, the field study, and the results of the study.



Figure 1. A farmer in Gujarat, India, accessing agricultural information through AVAAJ OTALO.

How Well do Audio Texts Work?

Chart 1

Ways of using the AB for learning (%)

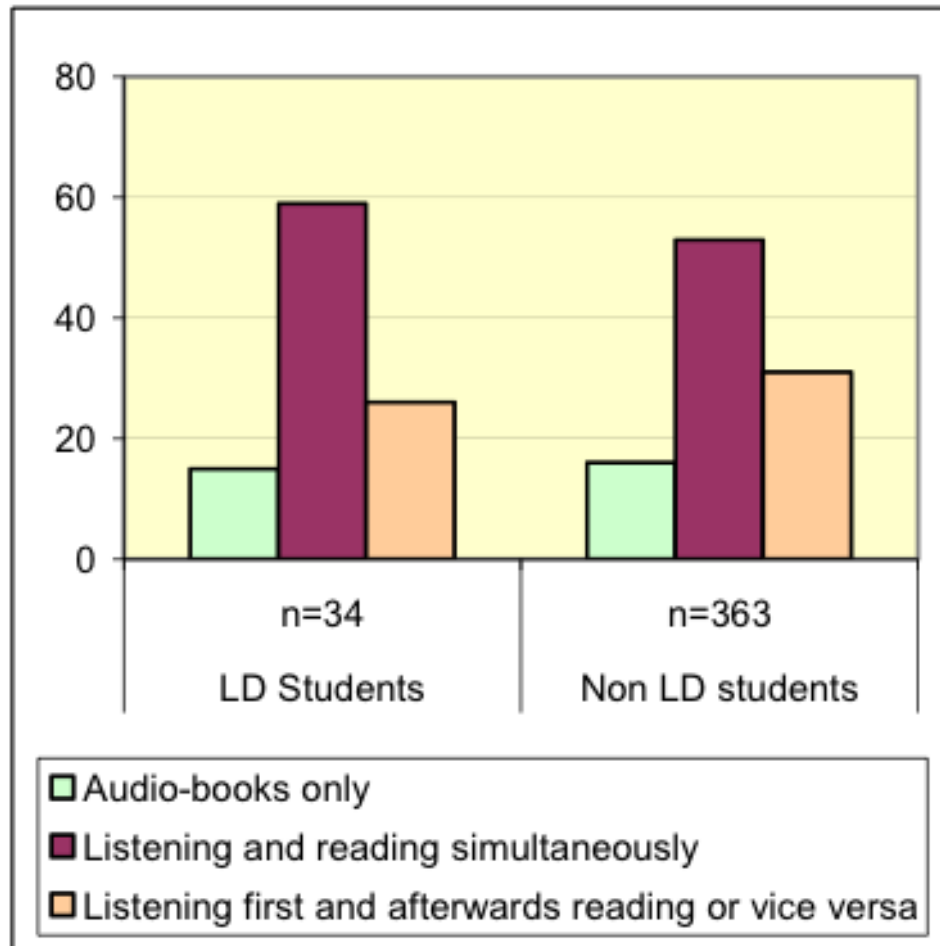
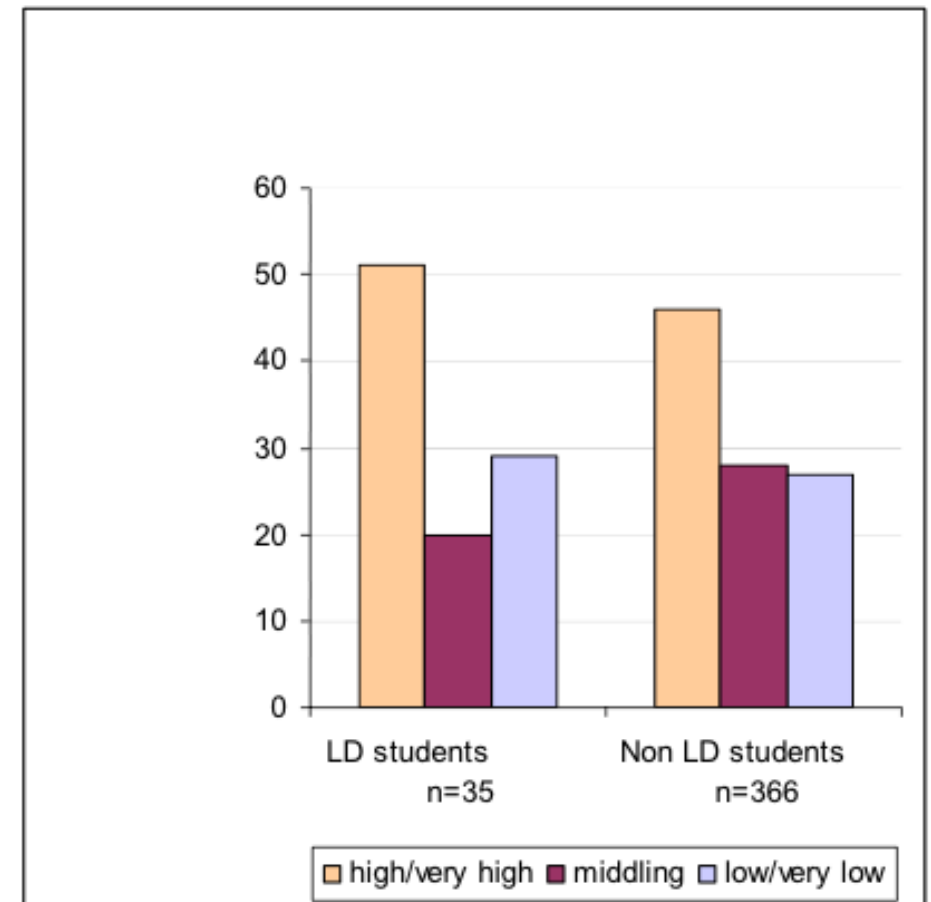


Chart 5

The contribution of learning by listening to the comprehension of LD and of non LD students (%)



Intriguing Research Challenges

Tools to Improve Reading Fluency

Tools to intelligently pause audio as I read it so I can reflect
(my favorite)

Tools to Author with Images

Auto-Suggest Illustrations for my Powerpoint Presentation

Tools to Tame Audio

Speech Recognition / Generation

Scanning

Note taking

Tools to Tame Video

Editing

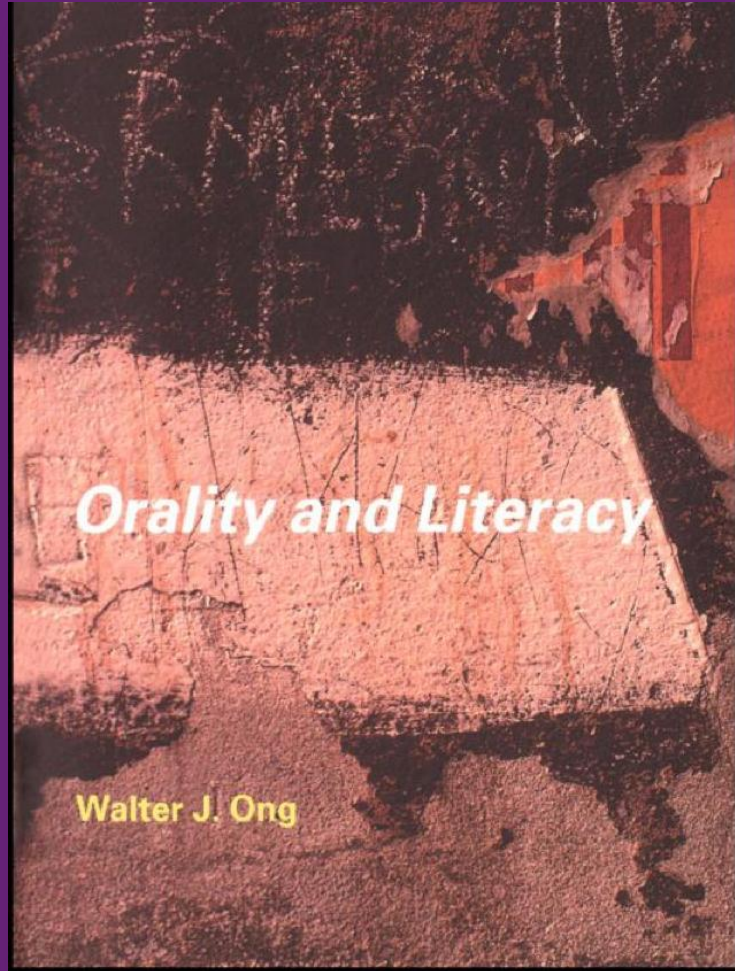
Searching



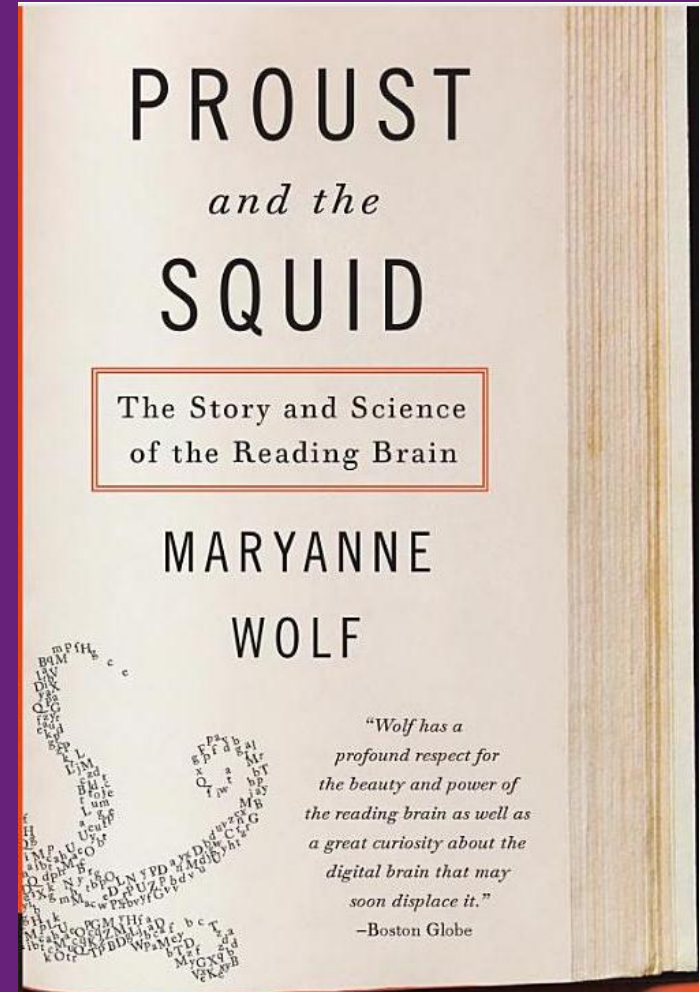
Research Question:

How to better gather data on how much information of each type is being used? And by whom / how many people?

Further Reading (one in audio too)



Orality and Literacy, Walter Ong, 1982



Proust and the Squid, Maryanne Wolf, 2008

Parting Question:

If I'm right, should we work to promote text or let new forms dominate?

If I'm wrong, should we bring text back into the discussion of new media?