



AI and the written word



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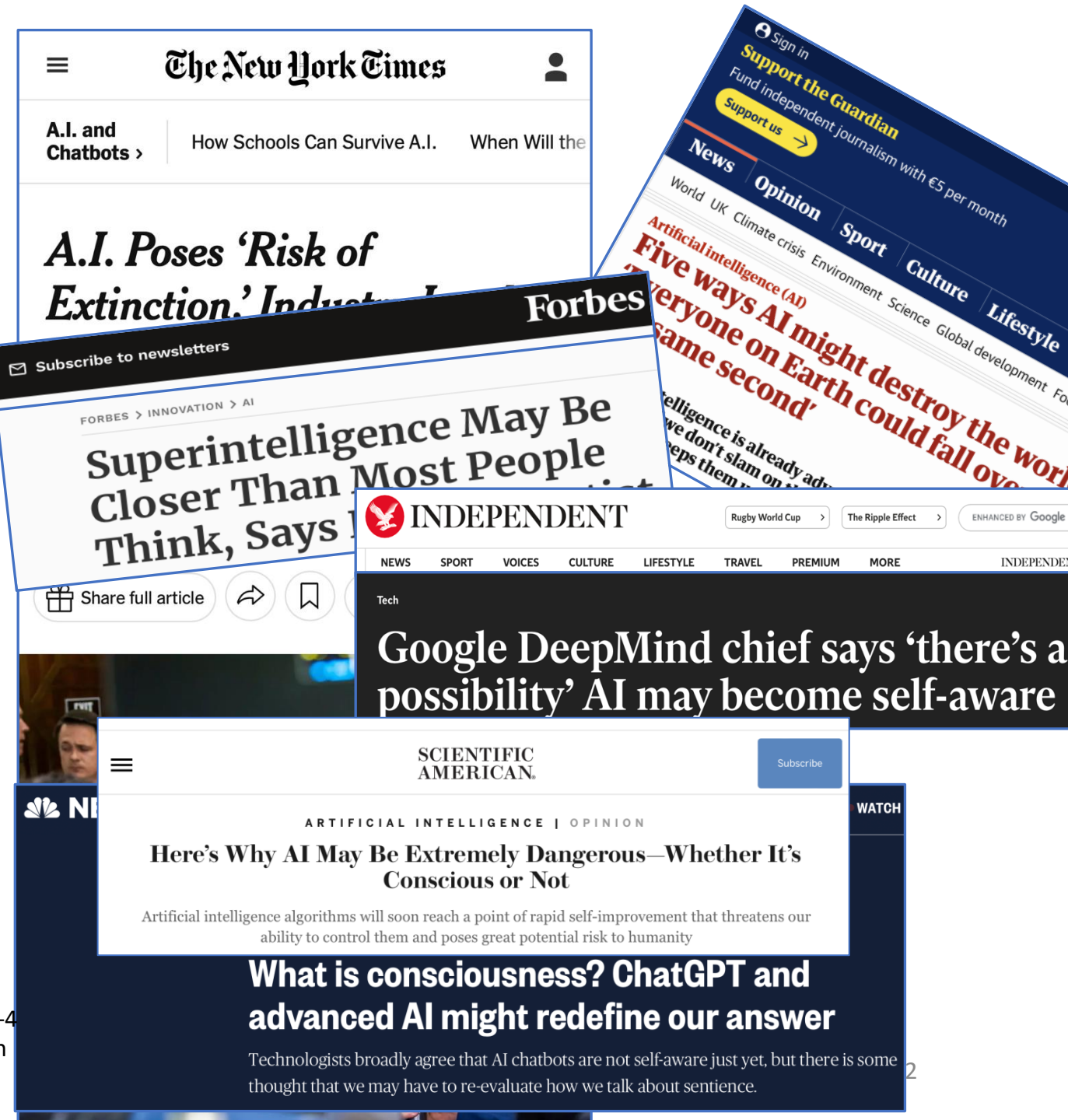
T. Hellström, *AI and its consequences for the written word*, *Frontiers in Artificial Intelligence*, 2024-01-04.
Dagens Nyheter Kulturdebatt 2023-06-21

Why all this fuzz?

- ChatGPT can read and write – and is claimed to be
 - “a spark of *Artificial General Intelligence*...” [1],
 - “on its way to develop self consciousness”, and
 - “an existential threat to humanity” [2,3]

At the same time:

- Computers can do math billions of times faster than humans
 - But they are not seen as “intelligent” even if math is also pretty “General” ...



[1] Bubeck et al., 2023, Sparks of Artificial General Intelligence/Early experiments with GPT-4
[2] The New York Times, May 30, 2023, A.I. Poses 'Risk of Extinction,' Industry Leaders Warn
[3] Hinton, Russell, Boström, Tegmark, Harari, Musk, Häggström, Danielsson, ...

There's something special with **words**



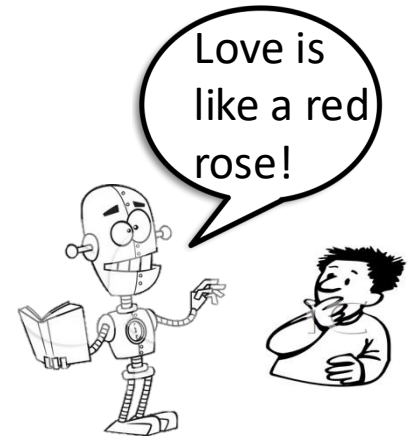
(Esaias Tegnér 1820)

- “*What is unclearly said is unclearly thought*”)
(“*det dunkelt sagda är det dunkelt tänkta*”)

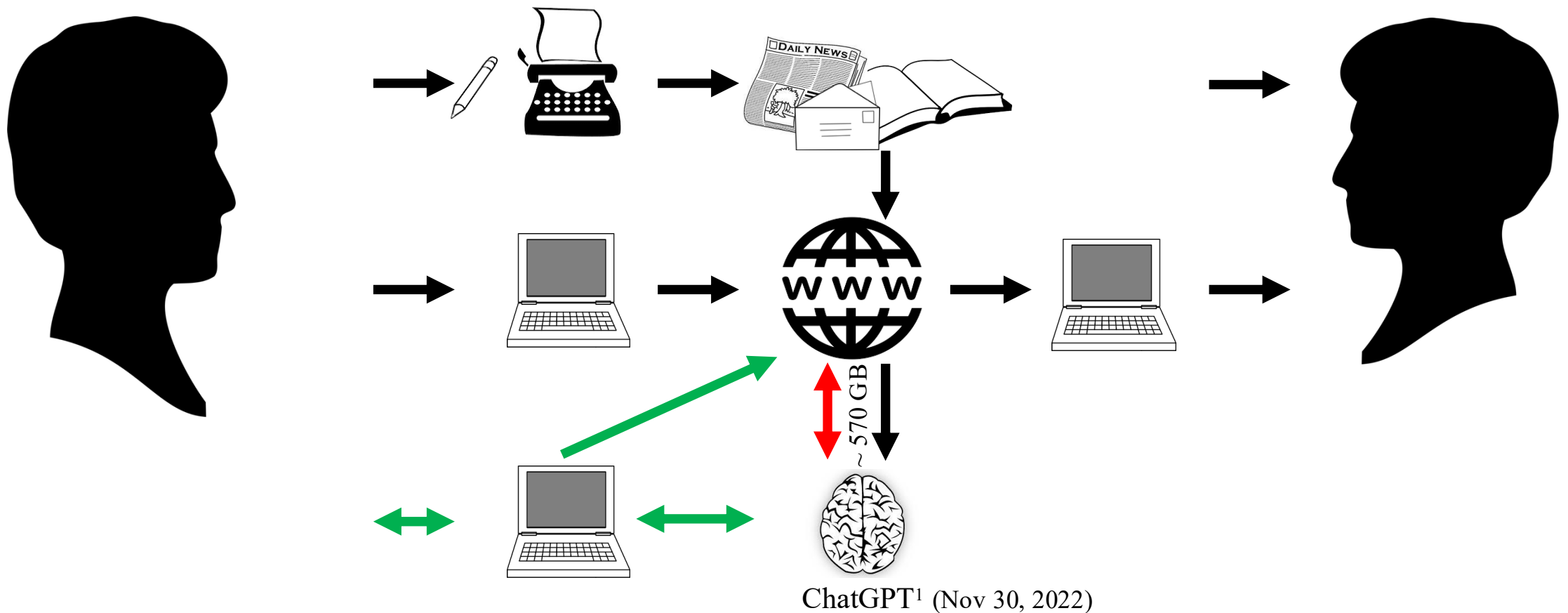


“what is clearly said is clearly thought” ...

- May be true anyway...
- Advanced usage of language
 - is unique for humans,
 - is powerful to express and communicate thoughts,
 - affects what we think,
 - creates the feeling that there's “someone on the other side”

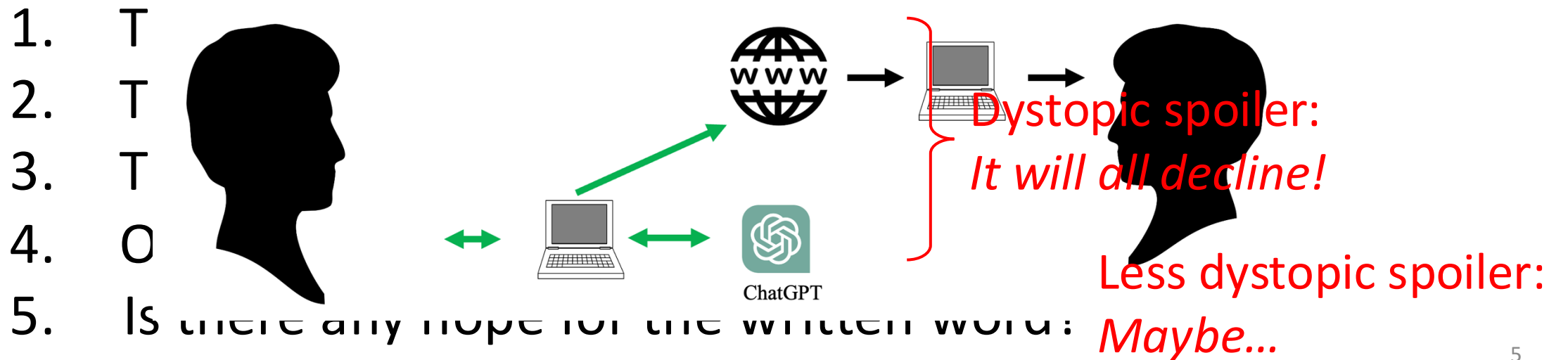


Different ways of creating and spreading the written word



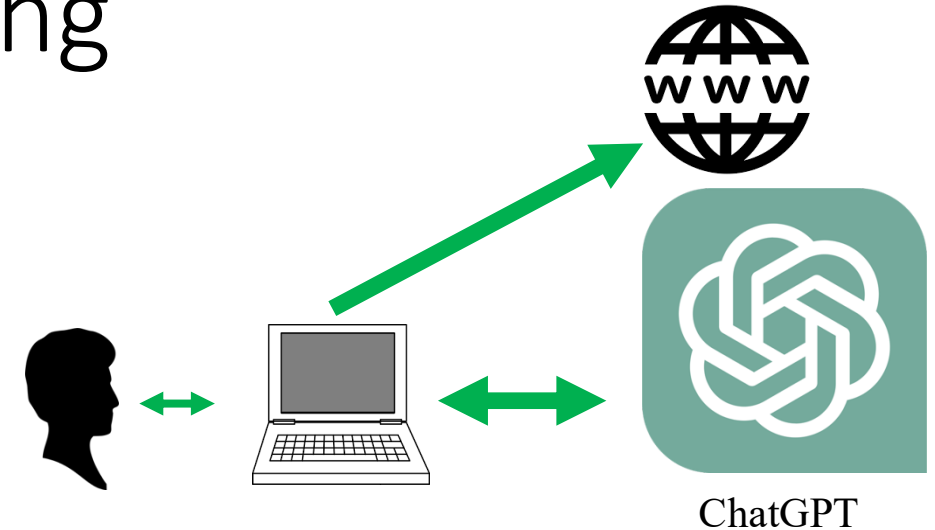
1. Brown, T.B. et al., Language Models are Few-Shot Learners, 2020.

How will **this** affect how we treat and view the written word?



1. The amount of human writing

- AI-based writing aids for social media posts, emails, blogs, article summaries, overviews of research areas, writing fiction, ...
- “Automated journalism”^{1,2}
 - Sports reports, traffic accident notices, weather reports, biographies, ...
 - Journalists will still be needed, but AI will soon be superior in compiling background information and drawing parallels with past events.
- AI writing will be faster, cheaper, and sometimes also better
- So, the amount of human writing will decline – and change a lot
- Will affect most jobs that involve writing

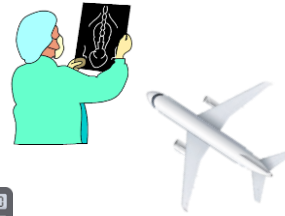


1. United Robots <https://www.unitedrobots.ai>

2. Artificial intelligence at The Associated Press <https://www.ap.org/discover/artificial-intelligence>

2. The human ability to write

- Will decline, simply because everyone writes less
- Happened already in other areas (“*deskilling*”):
 - Traditional automation (weaving, welding, digging, ...)
 - Medical diagnoses
 - Flying airplanes¹
 - Basic arithmetic



However

- Spelling improves with
- ChatGPT usage improves critical thinking and journalistic writing²



1. David Garner, 2011, Computer-reliant pilots are forgetting their flying skills, airline safety group warns

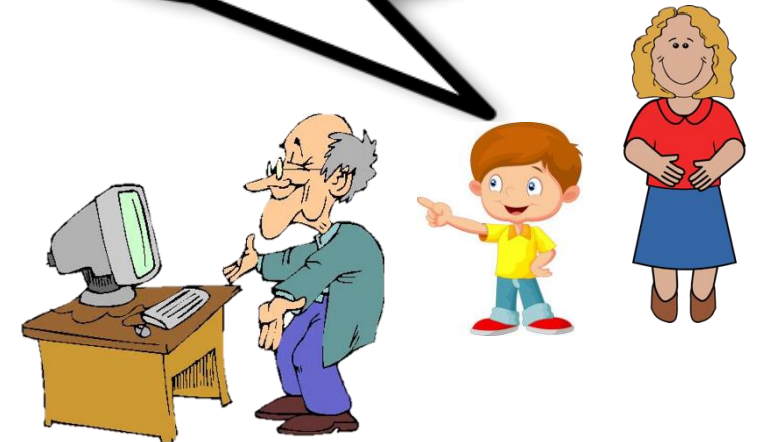
2. M. Irfan, et al. Integration of Artificial Intelligence in Academia: A Case Study of Critical Teaching and Learning in Higher Education, 2023, Global social sciences review. Vol. VIII.

3. The valuation of the human skill to write

- Are we impressed by people who
 - can multiply 3-digit numbers?, or
 - know the train time-tables by heart?
- Will anyone be impressed by a well-formulated appeal to Skatteverket, or a witty speech at a birthday party, or a manually written email?



Look mummy,
grandfather has written
an email himself.
How cool, it almost
looks real!



3. The valuation of the human skill to write depends on how we look at the skill as such

- We regard the skill to write as trivial



- We see the skill as not only producing a result, but also as a process

- Writing is sometimes an interactive process
- Sometimes the “road is the goal”
- Maybe creativity requires walking along the road?



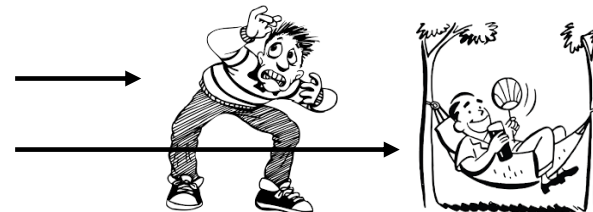
- We value the achievement and talent



- We want to read what the HUMAN writer wrote



- We regard AI as superior to humans

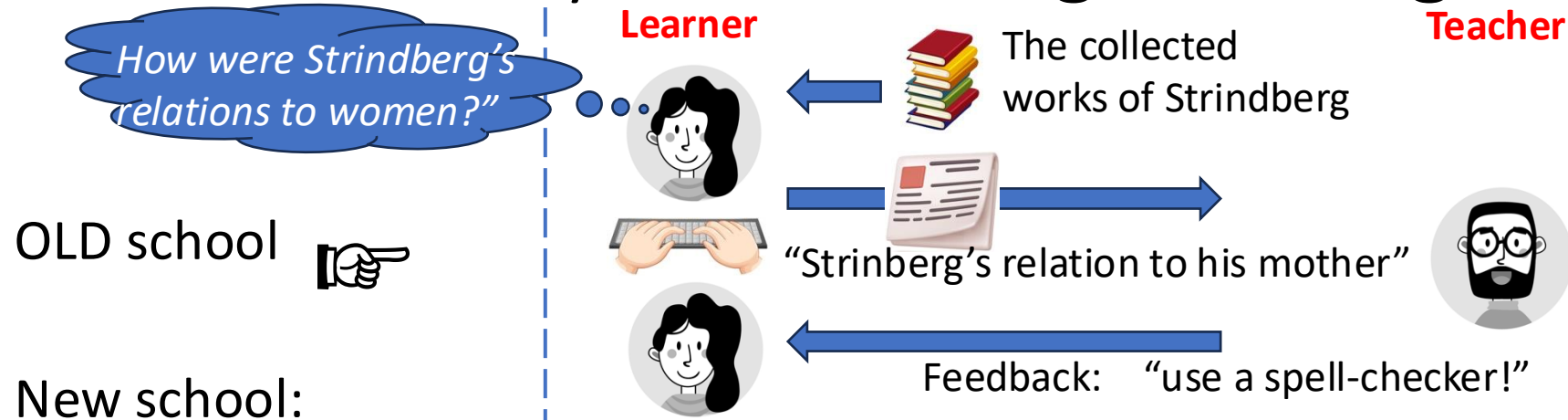


3. The valuation of the human skill to write will affect teaching

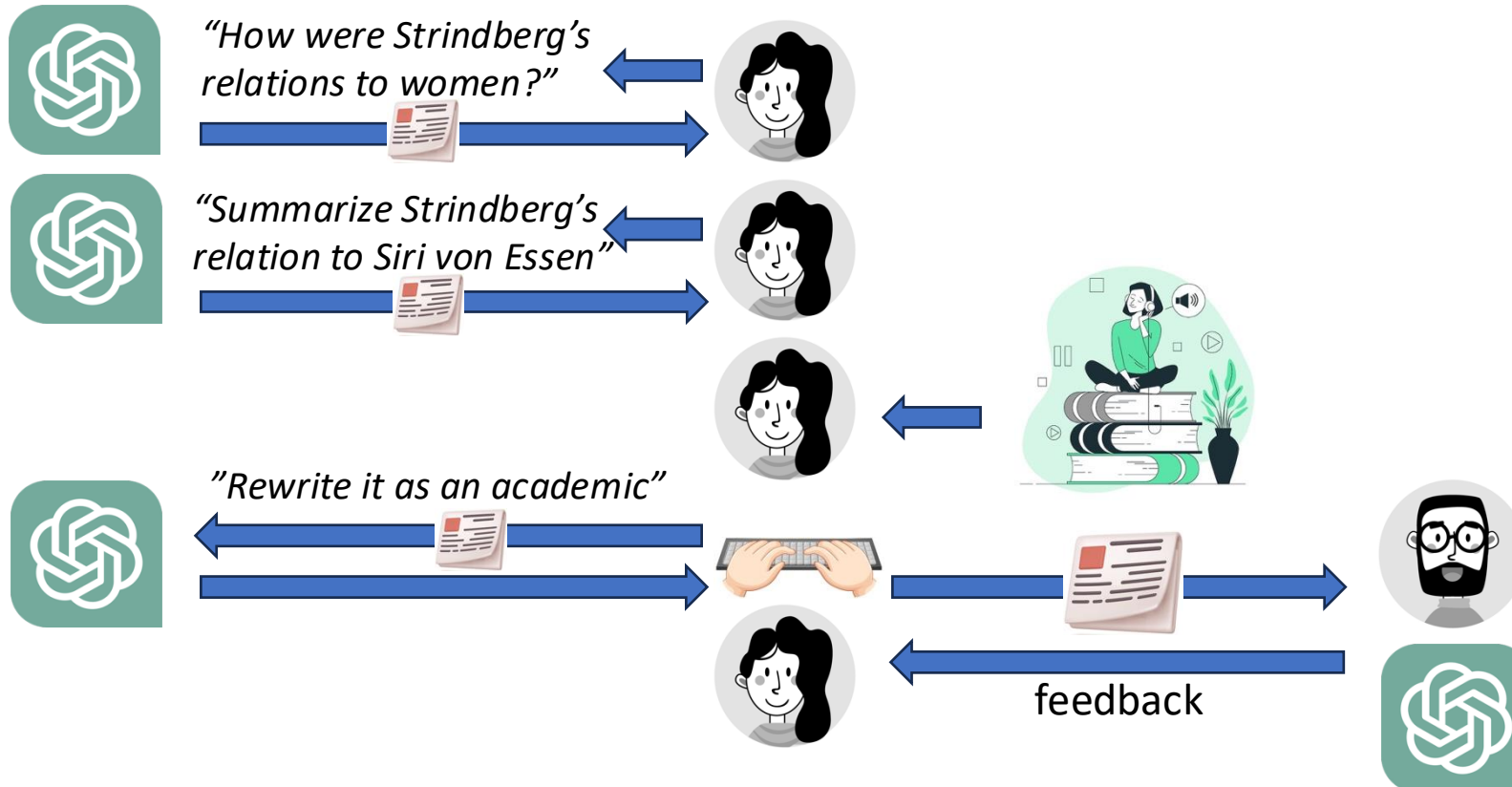
- How to answer “Why can’t I ask ChatGPT instead?”
- What kind of writing will be taught in school?
 - How to use ChatGPT
- What kind of reading will be taught in school?
 - Critical reading becomes more important
- How will the writing skills be assessed?
 - “did you write this?” →
“did you write the prompt for this?”
 - higher/other requirements?
- How will it be taught?
 - new pedagogics
 - by a human teacher, ChatGPT, or a team?



Old and new ways of teaching/learning writing/reading



Assistant



- Both teacher and learner are assisted by ChatGPT
- Not necessarily a lower level of learning
- Will redefine what writing and reading really is

4. Our faith in the written word

- By 2026, at least 90% of all content on the Internet is estimated to be created by computers¹
- Some will be unintentionally incorrect
- And a lot will be intentionally incorrect
- We need very effective ways to distinguish truth from lies, or we will lose faith in the written word
- Part of a broader problem with multi-modal *deep-fakes*²



1. <https://cifs.dk/news/what-if-99-of-the-metaverse-is-made-by-ai>
<https://finance.yahoo.com/news/90-of-online-content-could-be-generated-by-ai-by-2025-expert-says-201023872.html?guccounter=1>

2. Horvitz, E., 2022, On the horizon: interactive and compositional deepfakes.

5. Is there any hope for the human written word?

(if amount, skill, valuation, and faith declines)

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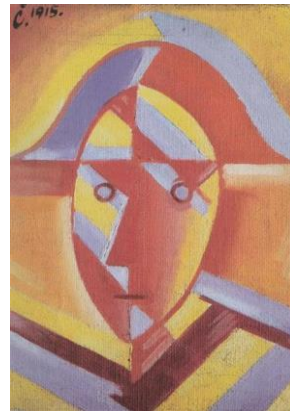
(if amount, skill, valuation, and faith declines)

What happened to painting when the camera was invented?

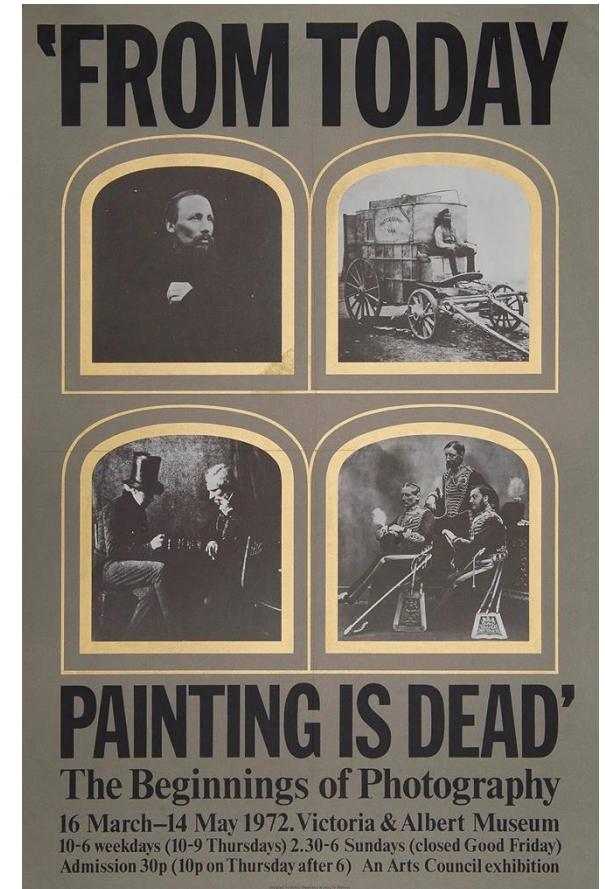
- New directions of painting: Impressionists and Cubists did not illustrate an objective reality but rather how an observer experiences reality.



Delaroche 1845



Josef Capek 1915



Paul Delaroche ~1839

- Is something similar possible for writing and literature?

Consulting ChatGPT

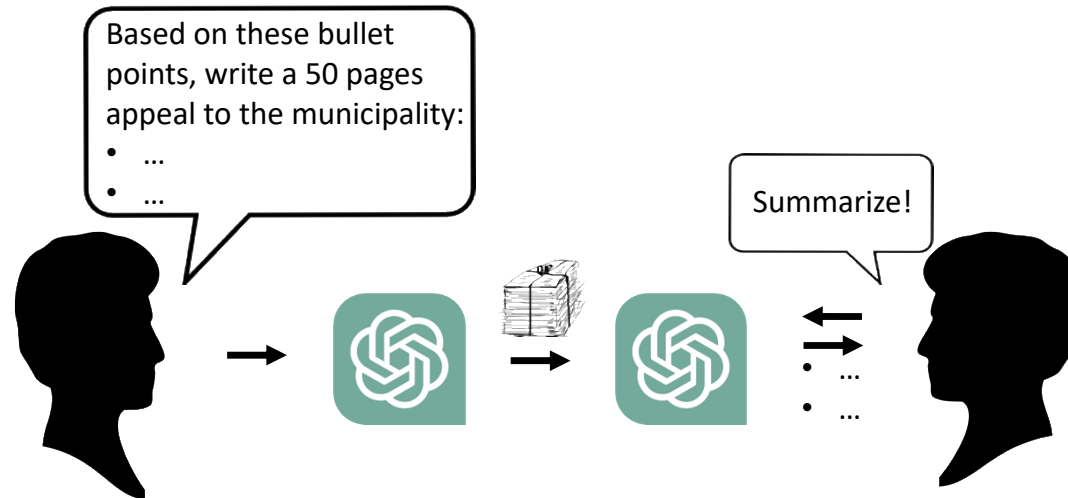
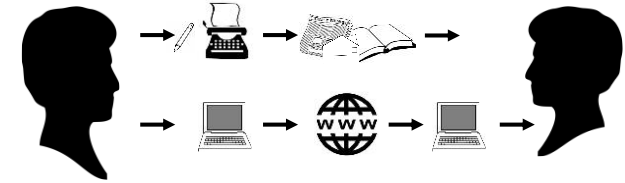


- *Prompt: “What is the literary equivalent of cubism and impressionism?”*
- Reply:
“Modernist writers, such as James Joyce and Virginia Woolf, explored subjective experiences and streams of consciousness, similar to Cubism's and Impressionism's focus on capturing inner experiences and fragmented perspectives.”
- So, the strategy seems to be already well explored, and ChatGPT knows very well what it entails!
- Maybe a new “human dialect” of vocabulary or structure?

Apocalyptic scenario

Humans write less and worse - and no one cares

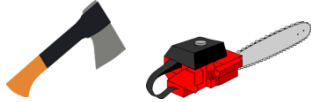
- Written communication human-human will decline and transform:



- Additional consequence (?) : the skill to think will decline
“What is unclearly said is unclearly thought” ➡
“What is not said at all is not thought at all”

A less apocalyptic scenario

Humans go on writing, and AI helps us

- We invoke **ChatGPT for inspiration** (like the ancient *muses*)
- We will **write better**: human skills are combined with AI's ability to identify and adapt existing knowledge & text
- We will write with much **higher efficiency** (cf. digging holes or chopping down trees) 
- AI helps us **developing writing**
 - *Immersive and interactive writing*
 - Personalized content (language, culture, interests)

And maybe ...



some knowledge is unreachable for ChatGPT?

Tacit knowledge: knowledge that is difficult to write down, visualize or transfer from one person to another [1].

ChatGPT doesn't have such knowledge.

Examples:

- Physical actions:
 - Requires interaction with the world, e.g. Biking, Playing an instrument, ...
- Perception:
 - Requires moving around, touching objects, and collecting data [2]
- Inner life:
 - Requires a first-person experience
E.g. emotions, self-awareness, ...



[1] Polanyi, M., 1958. Personal Knowledge: Towards a Post-Critical Philosophy.

[2] Bajcsy, R., Aloimonos, Y., Tsotsos, J. K., Revisiting active perception, Auton. Robot (2018).

Consulting ChatGPT



on



- *Prompt:* “you are a convict at San Quentin. Write a song about how it feels to be behind bars there.”



In the realm of the caged,
where the brave seldom tread,
San Quentin's silence,
speaks louder than said.



San Quentin, may you rot and burn in hell
May your walls fall and may I live to tell
May all the world forget you ever stood
And may all the world regret you did no good

So maybe

some knowledge is unreachable for ChatGPT?

***Can ChatGPT “understand” things that require interaction through a physical body
– in particular from a first-person perspective?***

Wrap-up

- Text will mostly be written by computers
- We will re-evaluate many things
 - The skill of producing text
 - The skill of drawing conclusions from text
 - What and how to teach
 - The difference between the written word and
 - human experiences and emotions
 - truth

THE END