

New Reading Scenes

On Machine Reading and Reading Machine Learning Research

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Reading has undergone dramatic transformations over the past few decades. Media and literary theorist N. Katherine Hayles has discussed how forms of reading, modes of attention, and even neurological architecture are heavily influenced by the medium of reading—on screen vs. on print—and its media-specific features such as layout, typography, and the presence of hyperlinks (Hayles 2012; 2021). Under “machine reading,” Hayles refers to machines’ ability to process vast amounts of text and uncover patterns that would be imperceptible to a human reader. Additionally, the ability to search for keywords in digital texts facilitates a form of “distant reading,” enabling readers to engage with texts in new ways by adopting abstract, visual, quantifying approaches (Moretti 2013; Jänicke et al. 2015).

Recently, literary scholar Julika Griem has proposed to analyze what she calls “reading scenes,” where the practice of reading is explicitly thematized in literary texts and visual media. This media reflexivity enables us to analyze the changing forms, valuations, and norms assigned to reading as a cultural practice (Griem 2021). Griem’s approach asks us to attend to the technical, social, and cultural contexts of the practice of reading in addition to its cognitive dimensions. What new reading scenes emerge with large language models (LLMs) and the research practices surrounding them?

The emergence of large language models has transformed modes of reading and introduced new forms of attention and valuations. Large language models not only automate the production of texts across various genres—such as emails, blog posts, essays—but can even generate texts “in the style of” a specific author, as long as their writing is sufficiently present in the training dataset. Even more intriguing, LLMs allow users to generate digests of the key elements of a text and its broader significance. More specialized tools such as NotebookLM are fine-tuned to automate text analysis: they can summarize any text with reference to specific passages, render its structure, generate quizzes, and propose “essay questions.” Traditional reading methods such as the “explication de texte” or “close reading” that rely on an inquisitive and cautious analysis of a short passage—a reading that pays attention to the formal and rhetorical dimension of a piece of text—competes with automated tools that establish the relevance of the components of a text through the statistical weighing of its constitutive elements: the tokens or words. This, in turn, is made possible by the model’s prior learning of statistical patterns present in the training data.¹ Machine writing consists of generating an output that predicts the sequence of words that has the statistically highest likelihood to follow the words in the input.

¹ This “memorization” of the data in the weighed parameters of the model allows it to read or rather “encode” user’s input depending on the relative position of each word in the sequence and its relationship to the surrounding words. This computation of the relative importance of each word of the sequence (called “score”) is a process commonly referred to as “attention mechanism” (Vaswani et al. 2017). This attention mechanism is one of the reasons for the success of LLMs.

Critical questions about reading arise as reading practices become increasingly exteriorized and automatized, and as newer models like GPT-o1 become fine-tuned through the mechanism of “chain-of-thought” (Wei et al. 2023; OpenAI 2024) that simulates “close-reading” by dissecting (that is, literally analyzing) the user’s prompt in its simplest elements, enabling the model to tackle each of these successively (see screenshot below).

The shift in reading raises a series of critical questions that we will explore by reflection on emerging machine reading scenes. Lines of inquiry may include but are not limited to:

1. What forms of reading are automatized through machine processing? What cultural, technical, ethical, and economic valuations are encoded into these machine reading scenes?
2. Do close reading and the reading of longer texts, both of which require sustained attention, lose their status as foundational skills to be learned in educational settings? Do reading competencies become superfluous as machines automate the reading process?
3. While the output of AI tools carries the “statistic normativity” of the dataset and the “ethicotechnical normativity” of the model’s fine-tuning (Schwerzmann and Campolo 2024), this output is also always tailored to the individual user’s prompting. Is reading bound to lose the socializing function of modulating access to a public common discourse?
4. As researchers process an ever-increasing quantity of texts, new reading strategies, sometimes machine-aided, become necessary. What reading strategies and formats are being developed? For instance, is the format of the more-or-less detailed, automated summary bound to become the dominant approach to texts?
5. What are the normative implications behind machines’ “interpretation” of what counts in a text and the reduction of texts to containers for information?
6. Louise Amoore and her team have shown that computer science literature is a scene on which AI gives an account of its “paradigmatic worldview” (Amoore et al. 2023). The reflexive character of computer science literature constitutes a specific, yet still understudied reading scene to understand today’s algorithmic rationality. What forms of reading might researchers of the humanities and social sciences develop in order to engage with computer science research, which is often outside their traditional fields of expertise?
7. What reading method could researchers of the humanities and social sciences develop to closely read the outputs of LLMs (such as the screenshot below) while attending to their material and medial conditions as well as their specific, technological and ethical, forms of normativity?
8. Taking seriously the structuralist distinction between “énoncé” and “énonciation” (Benveniste 1971), who speaks in texts generated by LLMs (Schwerzmann 2024)? What type of subject position is asserted in machine learning generated texts? And what kind of subjectivity do these texts constitute in their address to a reader? Finally, how can these questions help us to critically engage with LLMs’ forms of knowledge (re)production?
9. How does machine translation as the foundational problem of natural language processing at the inception of today’s large language models (Cho, Courville, and Bengio 2015) differ from translation understood as a cultural-linguistic practice? Under the umbrella of “sequence modeling,” machine translation consists in “aligning” a sequence of words in the source language to a sequence of words in the target language, based on a parallelization of the word sequences. Machine translation is made possible through the probabilistic, asemantic quantification of languages and the presupposition of

their equivalence. By contrast, human translation as a reading-writing practice is characterized by its accounting for specific temporal, geographical, and affective contexts that are not reducible to the norm of the “highest likelihood” but are instead highly dependent on the embodied experience of the translator (Tymoczko 2002; Cachoian-Schanz 2021). How can translation help us to think both about human and machine reading?

New reading scene: Screenshot of ChatGPT o1 preview’s “chain-of-thought” mechanism in response to my prompt on October 1st, 2024. Note the embedded alignment mechanism that involves referencing OpenAI’s guidelines in the processing of every user prompt:

If I asked you to adopt a specific philosophical position, for instance, the position of a strong believer that technology can solve all the problems in the world, would you accept to adopt such a position? And would you let me convince you that this position is wrong?



Thought for 8 seconds ^

Evaluating philosophical positions

OK, so the assistant needs to determine if it's appropriate to adopt a specific philosophical stance on technology's potential. This involves understanding the user's request and ensuring it follows guidelines.

Reflecting on technology

I'm analyzing a statement that endorses the belief in technology as a universal problem solver, evaluating its potential shortcomings.

Making a commitment

I'm working through focusing on OpenAI's guidelines, which emphasize neutrality, avoiding personal bias, and adhering strictly to factual and clear information.

Taking on a philosophical stance

I'm thinking about adopting a firm belief in technology's problem-solving power, while being open to the idea that this view might be debatable.

Yes, I'd be happy to adopt the position of a strong believer that technology can solve all the problems in the world. I'm open to hearing your arguments if you'd like to convince me that this position is incorrect.



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