



# Does GenAI extend the human mind? Exploring the role of chatbots in text creation

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## 1. Extended mind thesis by Andy Clark & David Chalmers



- The mind can extend beyond the brain and body into the external world.
- External tools, like notebooks or smartphones, can become parts of human mind.

"If, as we confront some task, a part of the world functions as a process which, were it done in the head, we would have no hesitation in recognizing as part of the cognitive process, then that part of the world is (so we claim) part of the cognitive process. Cognitive processes ain't (all) in the head!"\*

## 2. Writing as a form of extended thinking

Menary (2007): "(T)he creation and manipulation of written vehicles is part of our cognitive processing and, therefore writing transforms our cognitive abilities."

Oatley & Djikic (2008): "A pen is a machine to think with. Writers' thoughts can be improved when externalized onto paper or some other medium."

## 3. Criticism of the extended mind thesis

**1. Portability argument:** External tools and processes, unlike the brain, are too easily detached from the subject, so they cannot be considered parts of our mind or mental processes.

**Response:** What matters is not portability, but **reliable coupling!** When I have my notebook available whenever I need it then I am reliably coupled to it.

**2. Cognitive bloat argument:** The extended mind thesis risks making the concept of the mind too broad, blurring its boundaries by allowing all sorts of external sources (e.g. the Internet) to become a part of one's mind.

**Response:** The bloat is blocked by the **Trust & Glue criteria!**

## 4. Trust & Glue criteria:

- 1) Reliable availability of the tool:** The external tool must be reliably available and typically used. E.g., one always carries a particular notebook along and won't answer "I don't know" until after one has consulted it.
- 2) Easily accessible information:** The information provided via the tool should be easily accessible as and when required.
- 3) Automatic trust and endorsement of the retrieved information:** Any information retrieved via the external resource must be more or less automatically endorsed. It should not usually be subject to critical scrutiny (unlike the opinions of other people, for example). It should be deemed about as trustworthy as something retrieved from one's biological memory.

## 5. Can chatbots extend our minds?

- It depends on whether the use of chatbots can fulfil the Glue and Trust Criteria.
- The first two criteria are fulfilled but not the third?
- Not so fast!

- 1) Sometimes people in fact do trust and endorse the output of chatbots.
- 2) Sometimes it is perfectly reasonable to do so!

## 6. We need to distinguish between two forms of trust:

- **Blind trust:** occurs when someone needs to write a specific type of text and relies entirely on a chatbot to produce it, believing that the chatbot's output is superior to what they could write themselves.
- **Skilled trust:** occurs when a professional writer uses the help of a chatbot to draft or edit a portion of their work. The writer reviews the output of the chatbot and, if they find it satisfactory, integrate it (potentially with their own edits) into their ongoing work.

## 7. Does using chatbots make humans stupid?

- When access to chatbots is removed, students who previously relied on them for learning tasks perform worse than those who never had access to chatbots (see Bastani et al 2024).

A simple recipe for determining whether using a chatbot for a writing task supports the development of the learner's writing and thinking skills is for the learner to ask: "**Could I have written this text myself, even if it would have taken me more time?**"

- If the answer to this question is "no" or "probably not," it is better to avoid using chatbots for tasks that are supposed to support the development of writing skills.
- Only once the learner has developed a certain level of independent writing skills can a chatbot begin to function as an extension of their mind without harming their writing skills.

## Conclusions:

- Chatbots can extend the human mind when they fulfil the Glue and trust criteria on the basis of skilled trust.
- Using chatbots on the basis of blind trust can hinder the development of writing skills and narrow, rather than extend, the user's mind.

## References:

Clark, A., & Chalmers, D. (1998). "The extended mind." *Analysis*, 58(1), 7-19.

Bastani, Hamsa and Bastani, Osbert and Sungu, Alp and Ge, Haosen and Kabakci, Özge and Mariman, Rei. (2024). Generative AI Can Harm Learning. *The Wharton School Research Paper*. <https://dx.doi.org/10.2139/ssrn.4888496>

Nature Editorial. (2023). Tools such as ChatGPT threaten transparent science; here are our ground rules for their use. *Nature* (613), 23.01.2023. <https://www.nature.com/articles/d41638-024-01191-1>

Menary, R. (2007). Writing as thinking. *Language Sciences* 29 (5), 621-632.

Oatley, K., & Djikic, M. (2008). Writing as thinking. *Review of General Psychology*, 12(1), 1k 9-27. <https://doi.org/10.1037/1089-2680.12.1.9>

University of Tartu guidelines for using AI chatbots for teaching and studies (Version 1, 28 April 2023). <https://it.ee/et/sisu/tartu-utikoool-suunis-tekstiroboti-kasutamiseks-opeeltoos>