

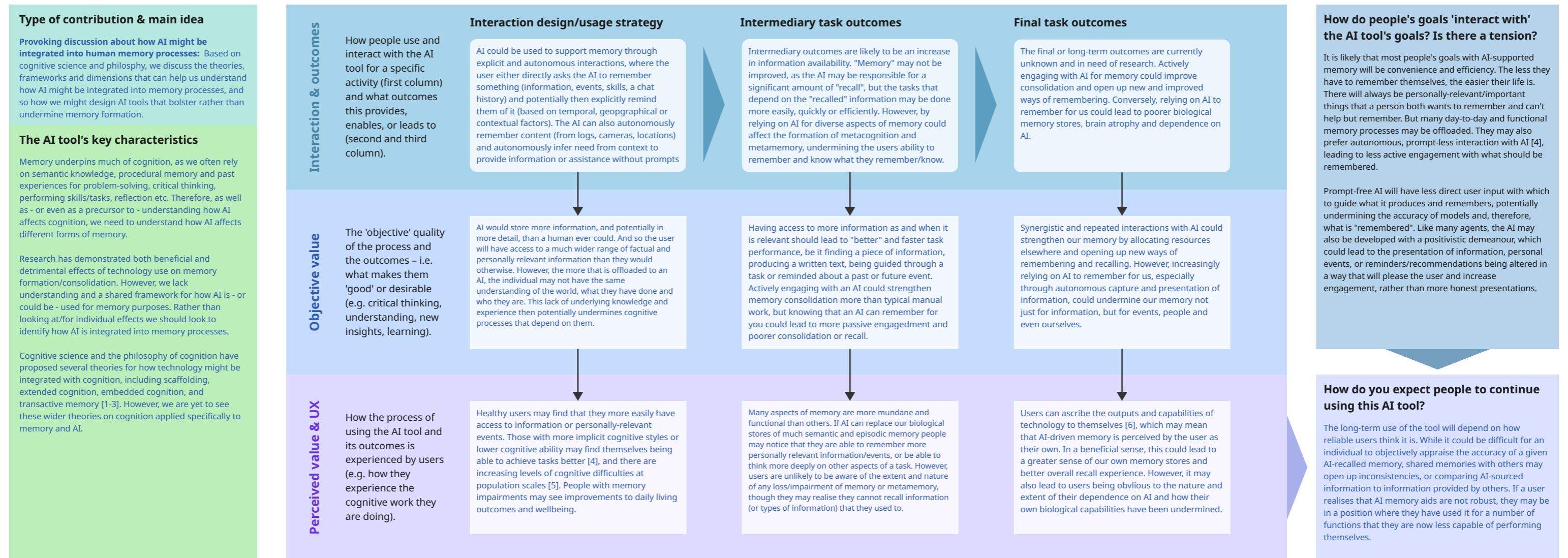
What Role Will AI Play in Our Memory: Extending, Scaffolding, Transacting, Replacing?

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Main theme(s): usage strategy, assessing and measuring outcomes

Target domain(s): all that involve memory component

Cognitive 'target(s)': short- and long-term memory



What you would like to discuss

Which theory/framework best describes how AI might be integrated into memory processes - or which fits best for what situation(s). Then, how we can design AI tools to integrate in a way that strengthens memory formation or, in cases where consolidation is not necessary, facilitates beneficial synergies between AI and biological memory.

What would you like to take away from the workshop?

I would like to get different perspectives on how AI might be integrated into memory processes across memory types (semantic, episodic, autobiographical, prospective) and how these align with existing theories/frameworks from cognitive science, such as scaffolding, extended cognition, distributed cognition, and transactive memory.

Key references (e.g. of main theories, empirical evidence, measurement methods etc.)

[1] Heersmink, R., Sutton, J. Cognition and the Web: Extended, Transactive, or Scaffolded?. *Erkenn* 85, 139-164 (2020). <https://doi.org/10.1007/s10670-018-0022-8>.
[2] Sutton, J. (2016). Scaffolding memory: Themes, taxonomies, puzzles. In C. Stone & L. Bietti (Eds.), *Contextualizing human memory: An interdisciplinary approach to understanding how individuals and groups remember the past* (pp. 187-205). Routledge/Taylor & Francis Group
[3] Hollan, J. et al. (2000). Distributed cognition: toward a new foundation for human-computer interaction research. *ACM Trans. Comput.-Hum. Interact.* 7, 2, 174-196. <https://doi.org/10.1145/353485.353487>
[4] Barr, N. et al. (2015) "The brain in your pocket: Evidence that Smartphones are used to supplant thinking", *Computers in Human Behaviour*, 48 (2015). <https://doi.org/10.1016/j.chb.2015.02.029>.
[5] Wong, K-H. et al. (2025) "Rising Cognitive Disability as a Public Health Concern Among US Adults", *Neurology*, 105 (8). <https://doi.org/10.1212/WNL.00000000000014226>.
[6] Ward, A. F. (2013). Supernormal: How the Internet Is Changing Our Memories and Our Minds. *Psychological Inquiry*, 24(4), 341-348. <https://doi.org/10.1080/1047840X.2013.850148>.

How to proceed with this work/idea?

After identifying/settling on the best theories/frameworks for how AI could be integrated into memory it is important to do research using practical demonstrations of AI-supported memory, to probe how people use the tool, whether/how it affects task performance, and whether/how it affects longer term retention and transference of knowledge.