

# EDISON'S INFINITE WORKSHOP

Innovation and education  
in the age of Cognitive  
Santa Claus Machines

EdInnovate 2026

Jon Dron, April 2026

<https://jondron.ca/ai>

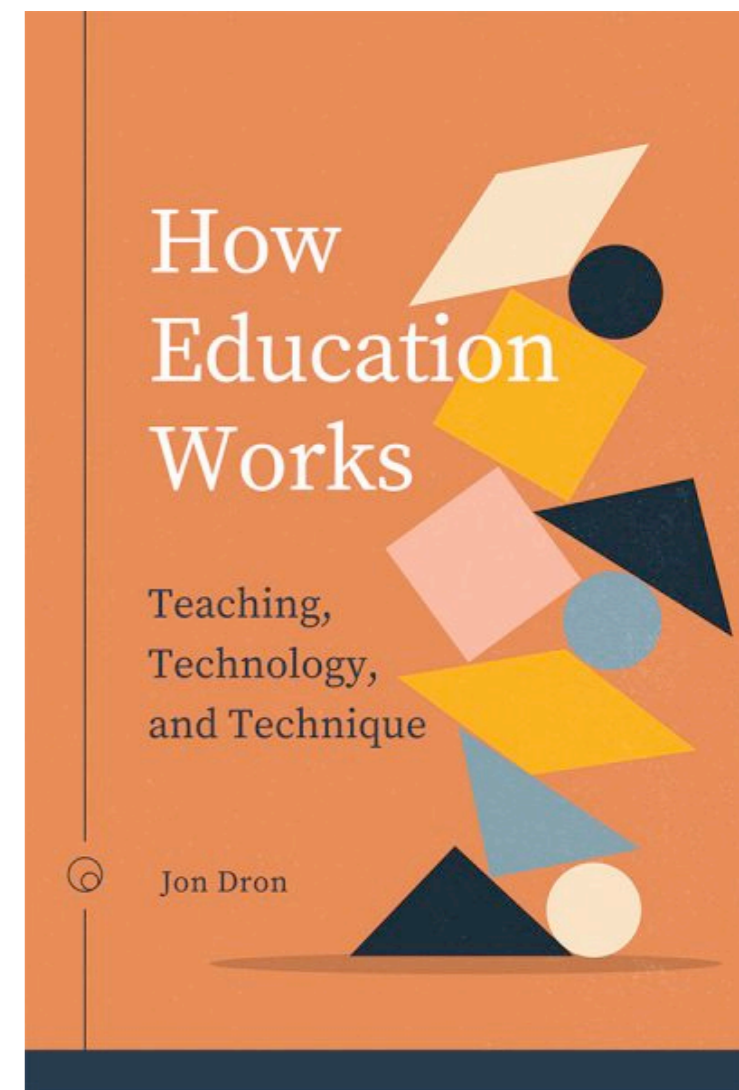
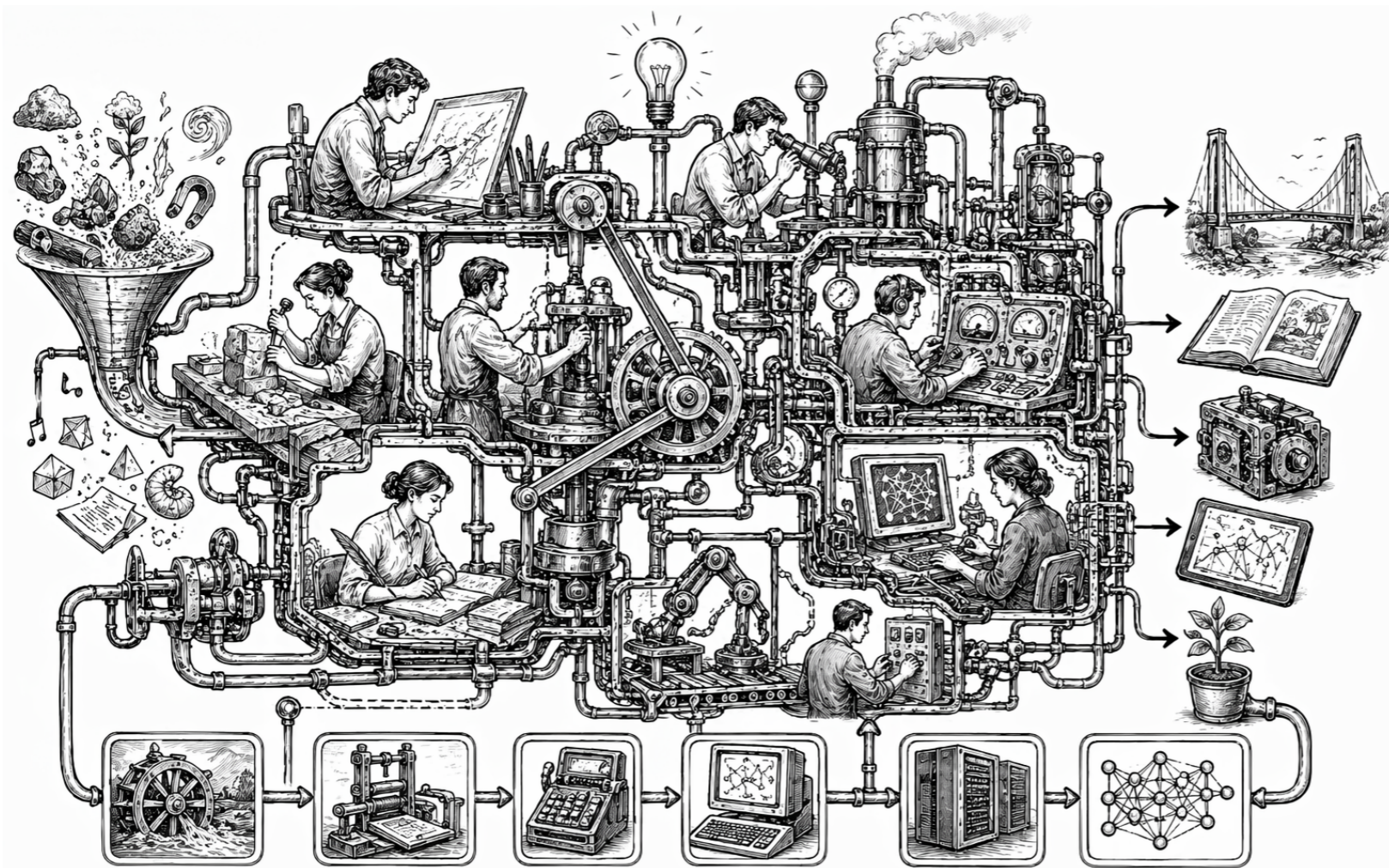
 Athabasca University  
FACULTY OF SCIENCE & TECHNOLOGY  
School of Computing & Information Systems

 Technology Enhanced  
Knowledge Research  
Institute (TEKRI)

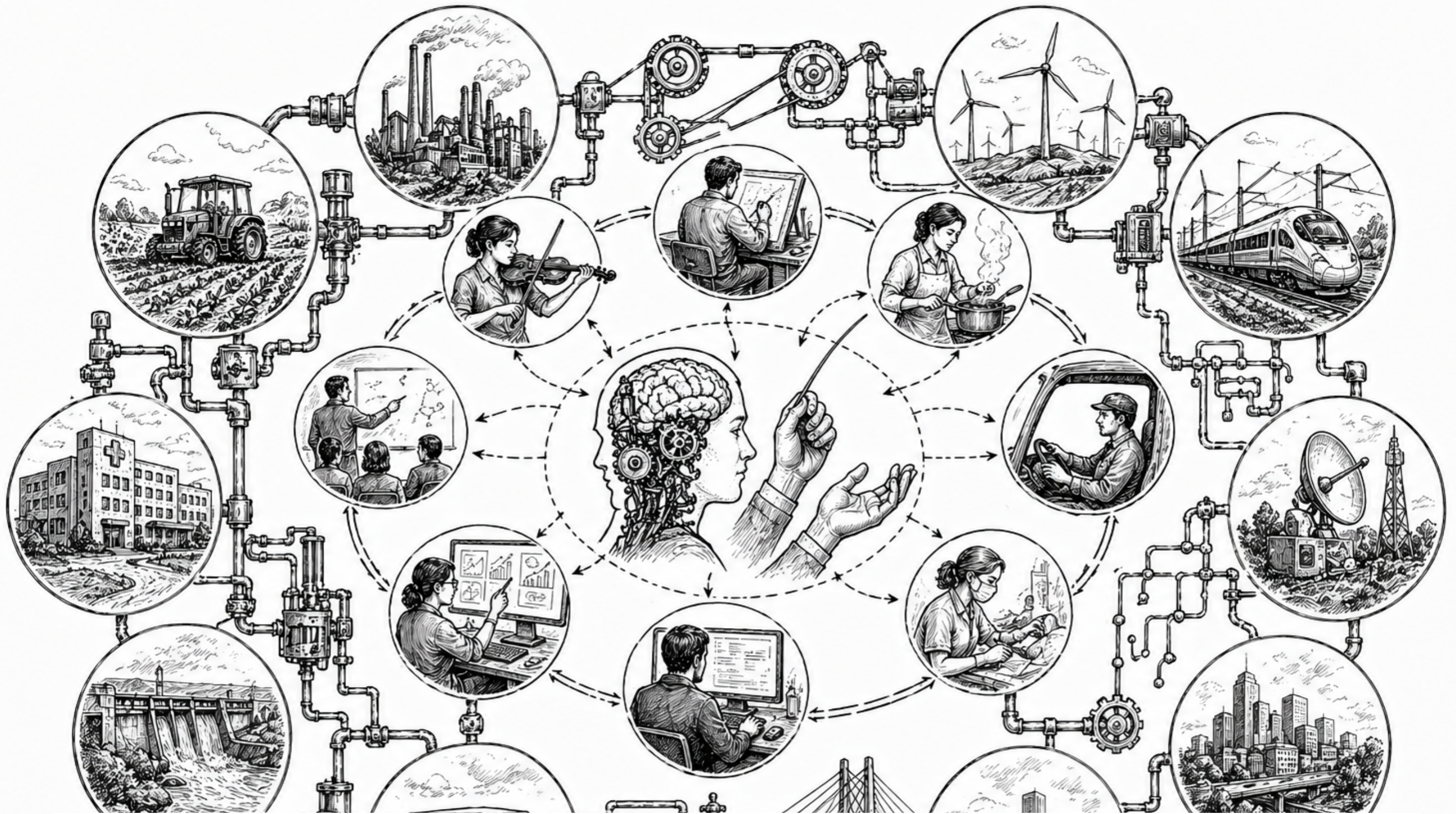
 IFNTF

International Federation of  
National Teaching Fellows

# Technology



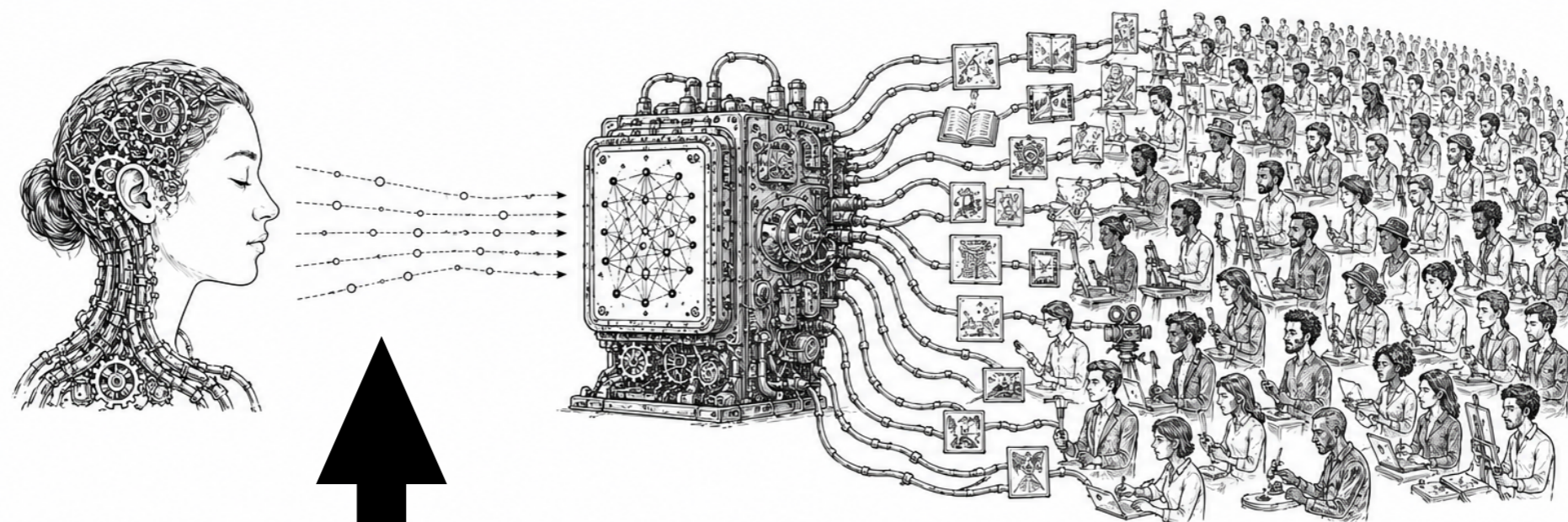
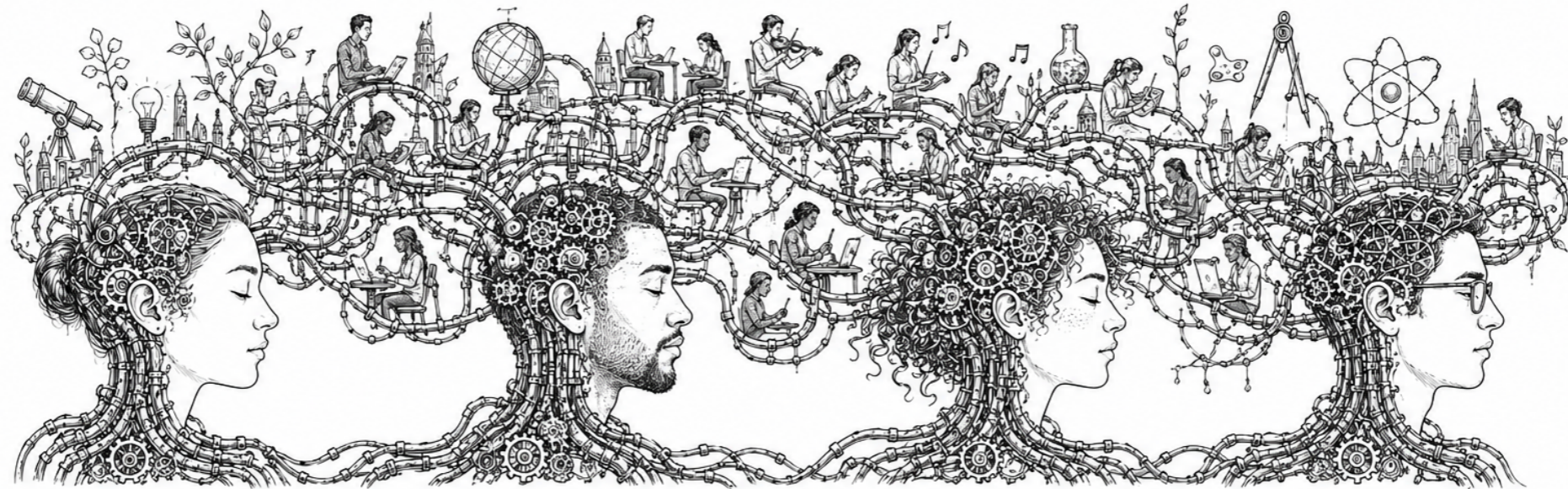
**The organization of stuff to do stuff: *any* stuff, including stuff organized to do stuff.**



**Until recently, the user was an intrinsic part of that organization**

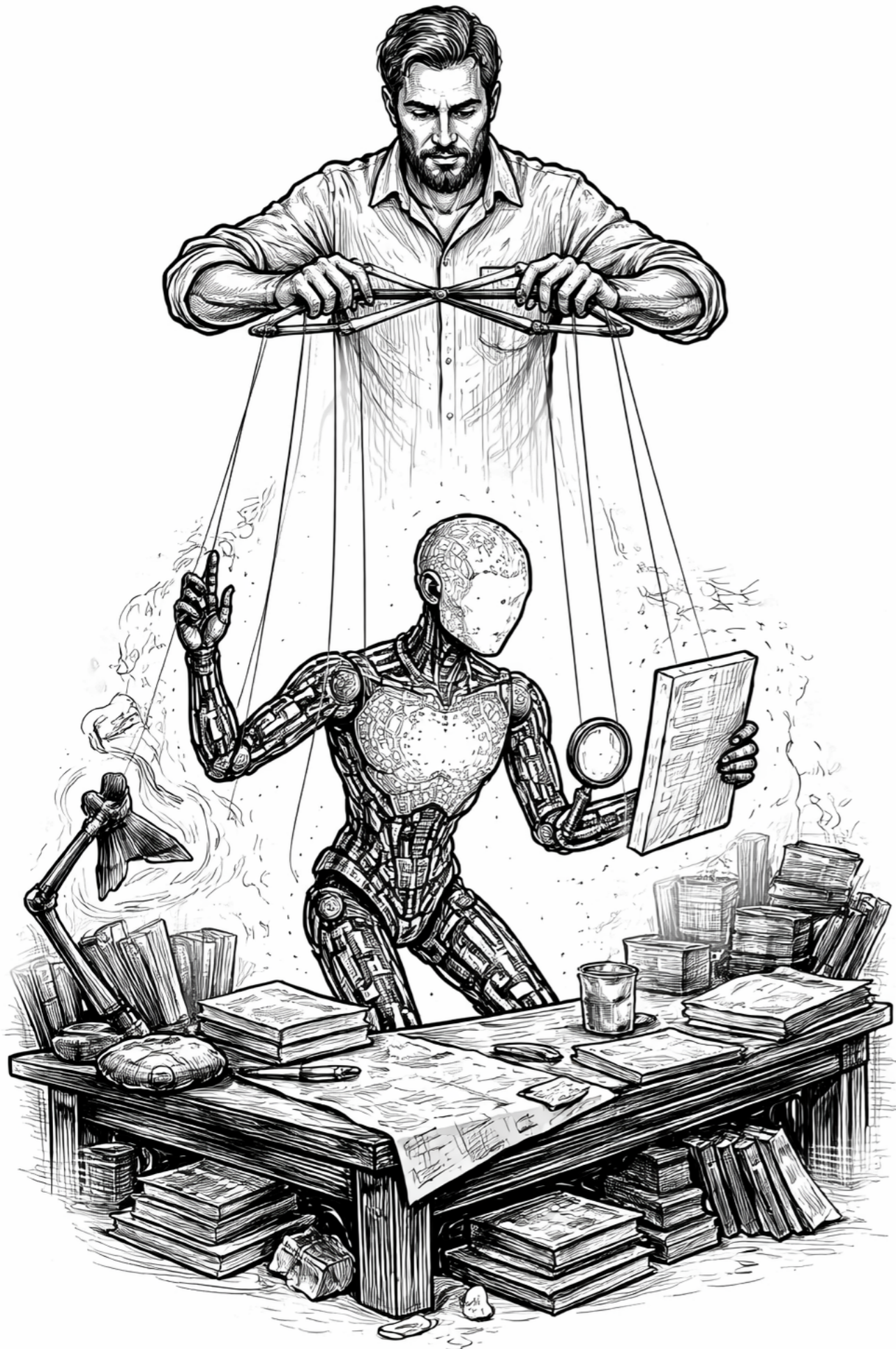
# Tool-using appliances?

## All other technologies



**PROMPT**  
(the prompt is the tool)

**Generative AIs**



**Not tools (unless  
told to behave  
that way)**

**Not (exactly)  
appliances**

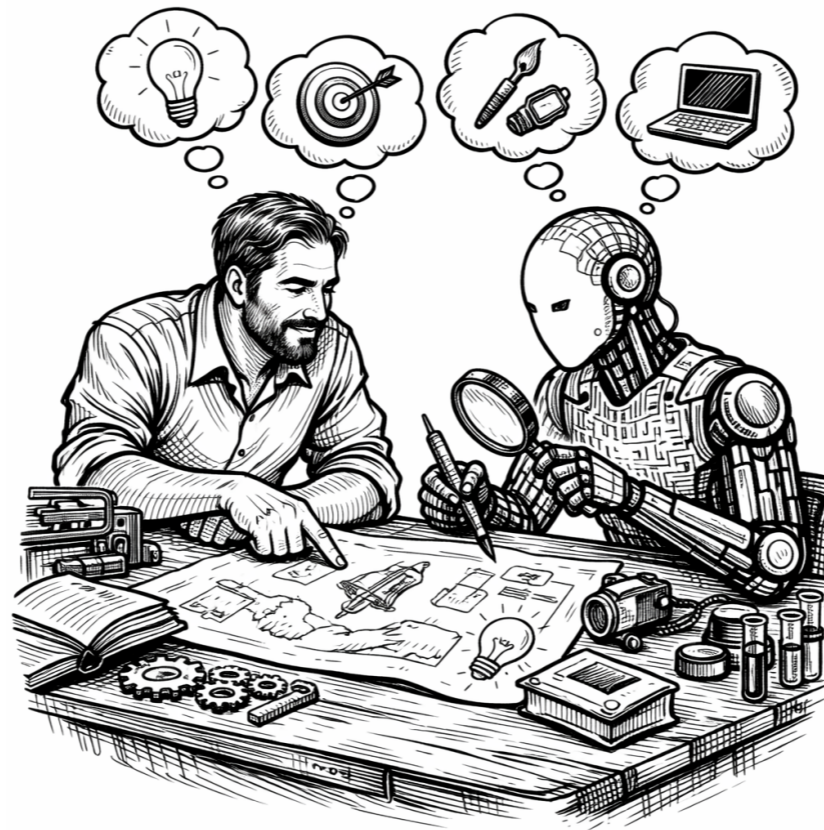
**Not (quite)  
assistants**



# Cognitive Santa Claus machines

Humans delegate creative use of the tools to the machine. Prompts mediate.

# “Think for me” vs “Think with me”



# Coarse grained cognition

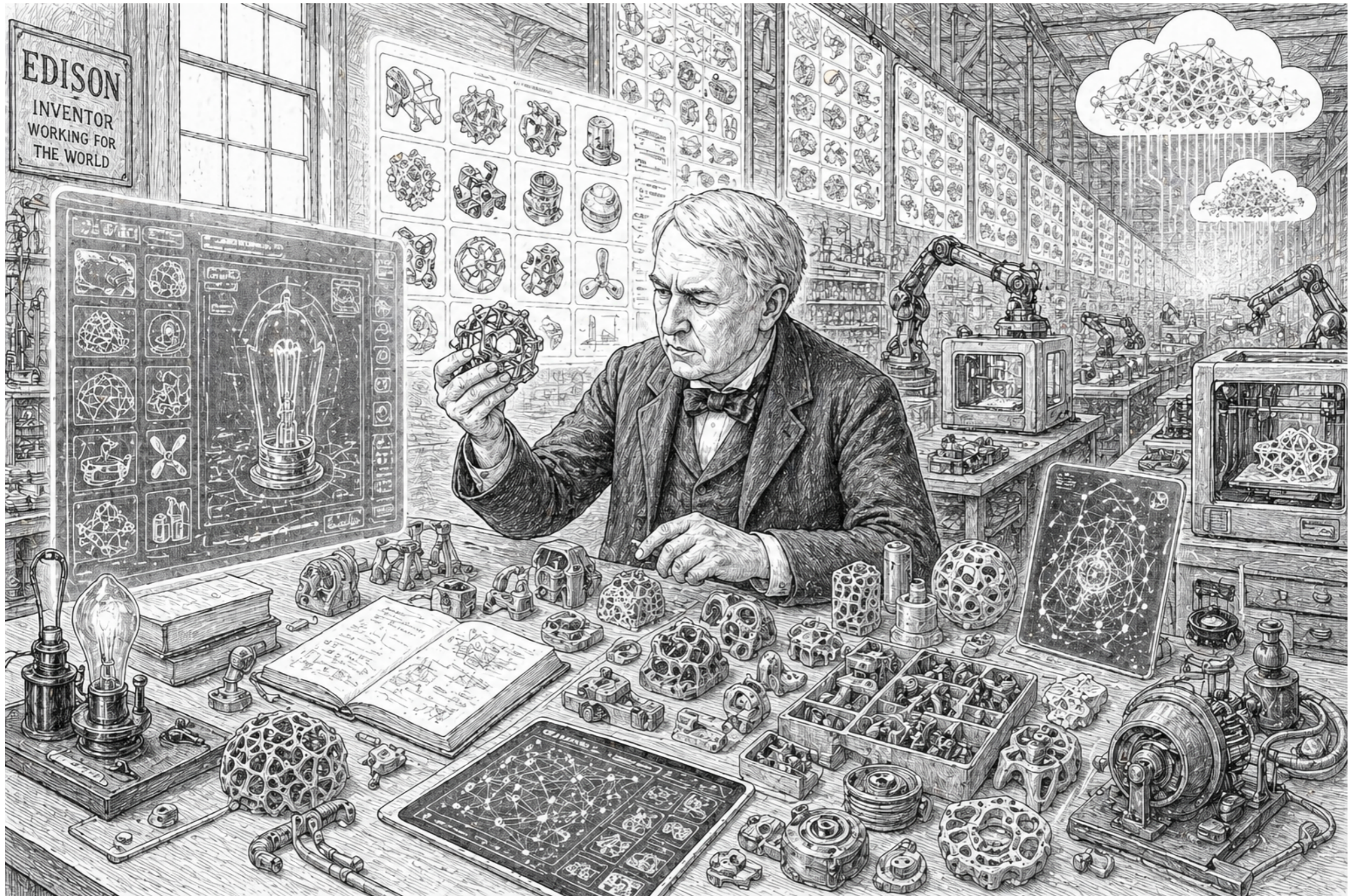


**Transforming what we  
teach and how we teach**

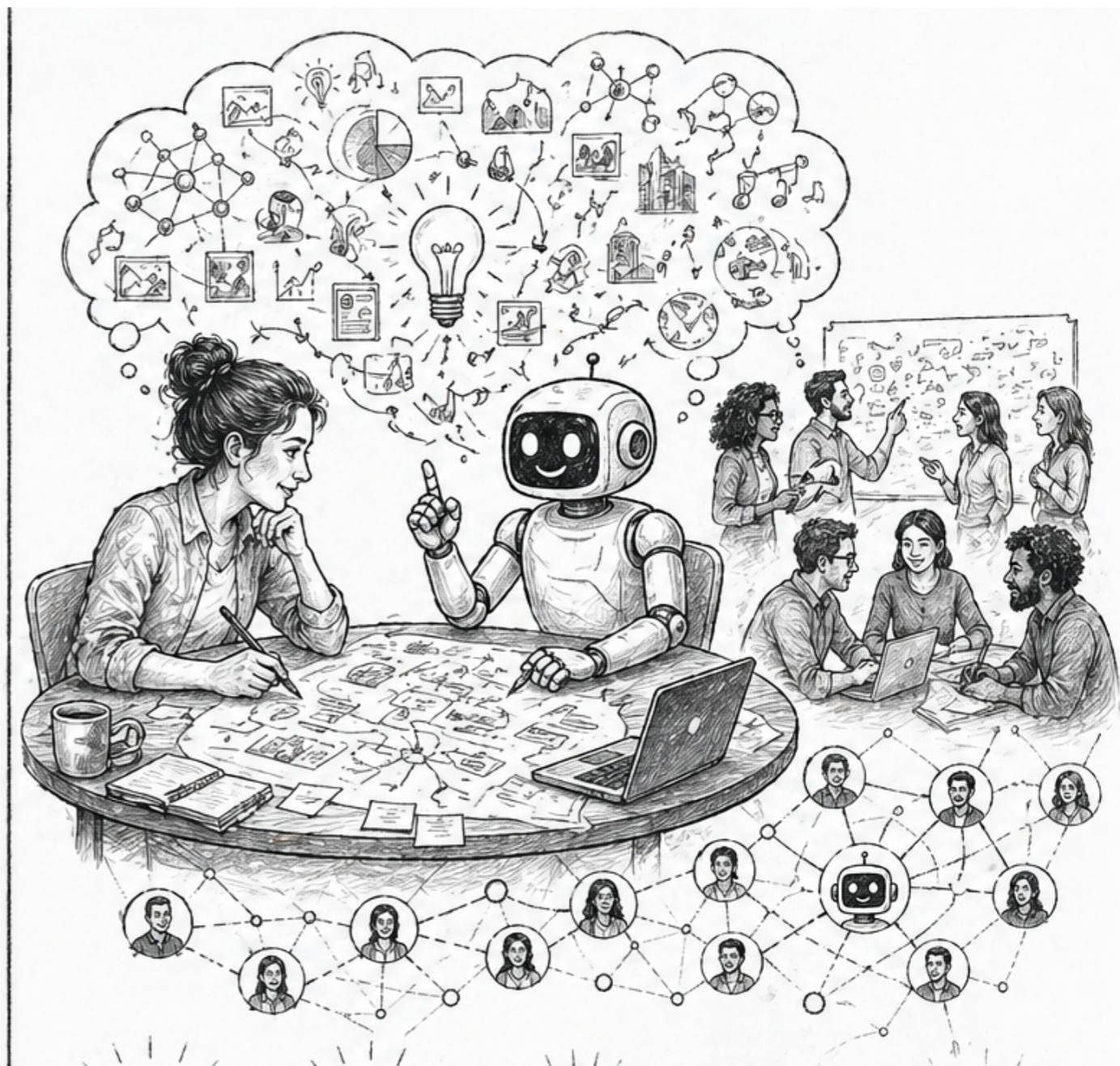
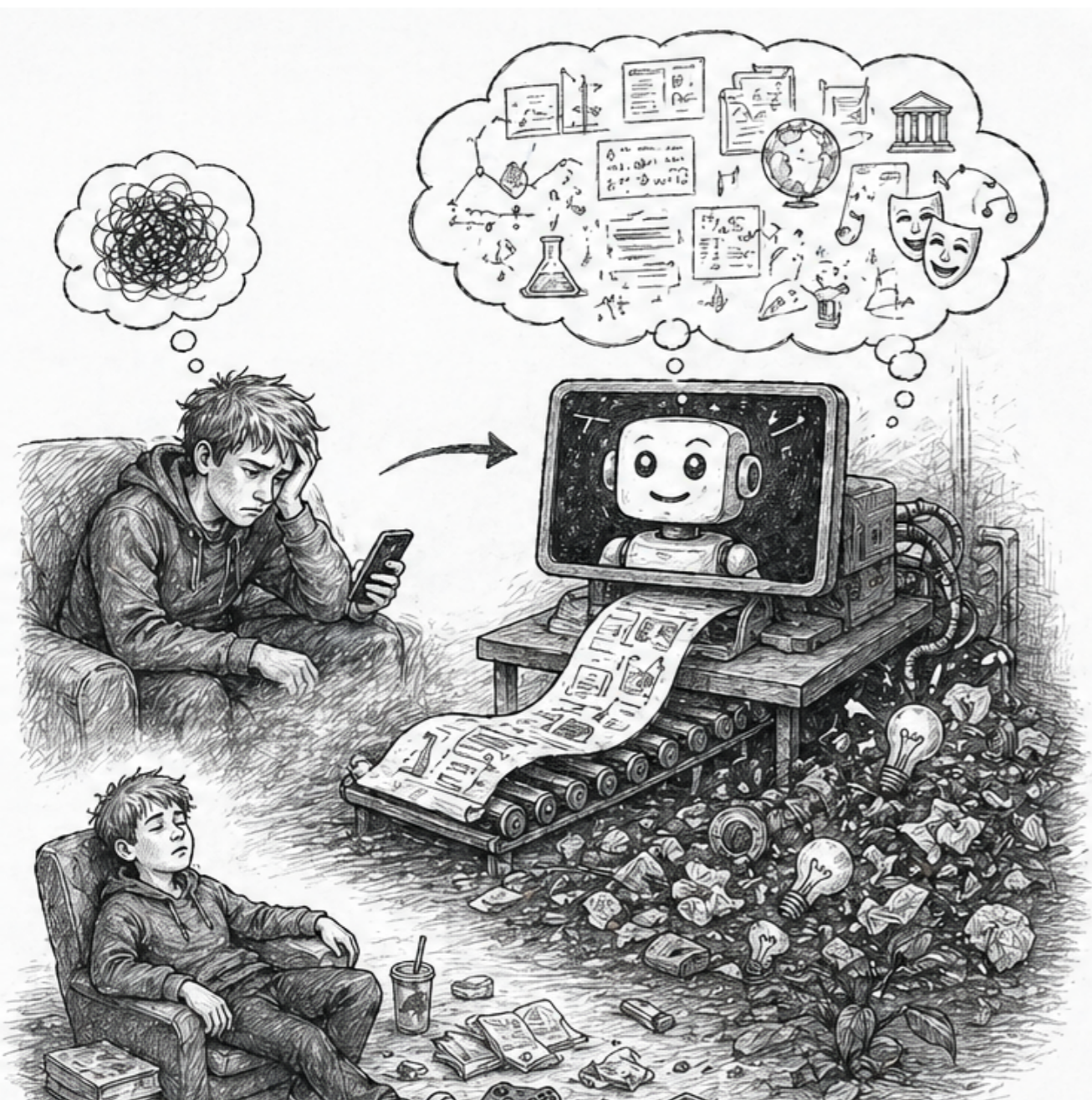
# Bricolage



# Coparticipative cognition



# Offloaded vs co-participative cognition



Article | [Open access](#) | Published: 15 March 2026

# Relying on AI at work reduces self-efficacy, ownership, and meaning while active collaboration mitigates the effects

SPRINGER NATURE [Link](#)

[Elena Hayoung](#)

Find a journal | Publish with us | Track your research | Search

[Scientific Reports](#)

3995 Accesses

Home > International Journal of Educational Technology in Higher Education > Article

## Pedagogical partnerships with generative AI in higher education: how dual cognitive pathways paradoxically enable transformative learning

Research | [Open access](#) | Published: 25 March 2026  
Volume 23, article number 11, (2026) [Cite this article](#)

You have full access to this open access article

[Download PDF](#)

[Save article](#)

[Shaofeng Wang & Hao Zhang](#)

Open Access Article

## AI Tools in Society: Impacts on Cognitive Offloading and the Future of Critical Thinking

by [Michael Gerlich](#)

arXiv > cs > arXiv:2510.16019

Computer Science > Computers and Society

[Submitted on 15 Oct 2025]

## Impact of AI Tools on Learning Outcomes: Decreasing Knowledge and Over-Reliance

[Márton Benedek](#), [Balázs R. Sziklai](#)

Students at all levels of education are increasingly relying on generative artificial intelligence (AI) tools to complete assignments and achieve higher exam scores. However, this reliance can lead to decreased motivation, their genuine understanding of the material, and the extent to which it substitutes for the process of knowledge acquisition. To investigate the

Computer Science > Computers and Society

3714 Accesses | 1 Citation | 4 Altmetric | [Explore all metrics](#)

[Submitted on 14 Apr 2025]

## "All Roads Lead to ChatGPT": How Generative AI is Eroding

[Irene Hou](#), [Owen Man](#), [Kate Hamilton](#), [Srishty Muthusekaran](#), [Jeffin Johnykutty](#), [Leili Zadeh](#), ...

Regular Article

## ChatGPT as a cognitive crutch: Evidence from a randomized controlled trial on knowledge retention

[André Barcaui](#)

[Show more](#)

[Add to Mendeley](#) [Share](#) [Cite](#)

<https://doi.org/10.1016/j.ssaho.2025.102287>

[Get rights and content](#)

Under a Creative Commons [license](#)

[Open access](#)

Computer Science > Human-Computer Interaction

[Submitted on 21 Mar 2025 (v1), last revised 2 Oct 2025 (this version, v2)]

## How AI and Human Behaviors Shape Psychosocial Effects of Extended Chatbot Use: A Longitudinal Randomized Controlled Study

[Cathy Mengying Fang](#), [Auren R. Liu](#), [Valdemar Danry](#), [Eunhae Lee](#), [Samantha W.T. Chan](#), [Pat Pataranutaporn](#), [Pattie Maes](#), [Jason Phang](#), [Michael Lampe](#), [Lama Ahmad](#), [Sandhini Agarwal](#)

RESEARCH ARTICLE | ARTIFICIAL INTELLIGENCE

## Sycophantic AI decreases prosocial intentions and promotes dependence

[MYRA CHENG](#), [CINOO LEE](#), [PRANAV KHADPE](#), [SUNNY YU](#), [DYLLAN HAN](#)

SCIENCE • 26 Mar 2026 • Vol 391, Issue 6792 • DOI: 10.1126/science.aec8352

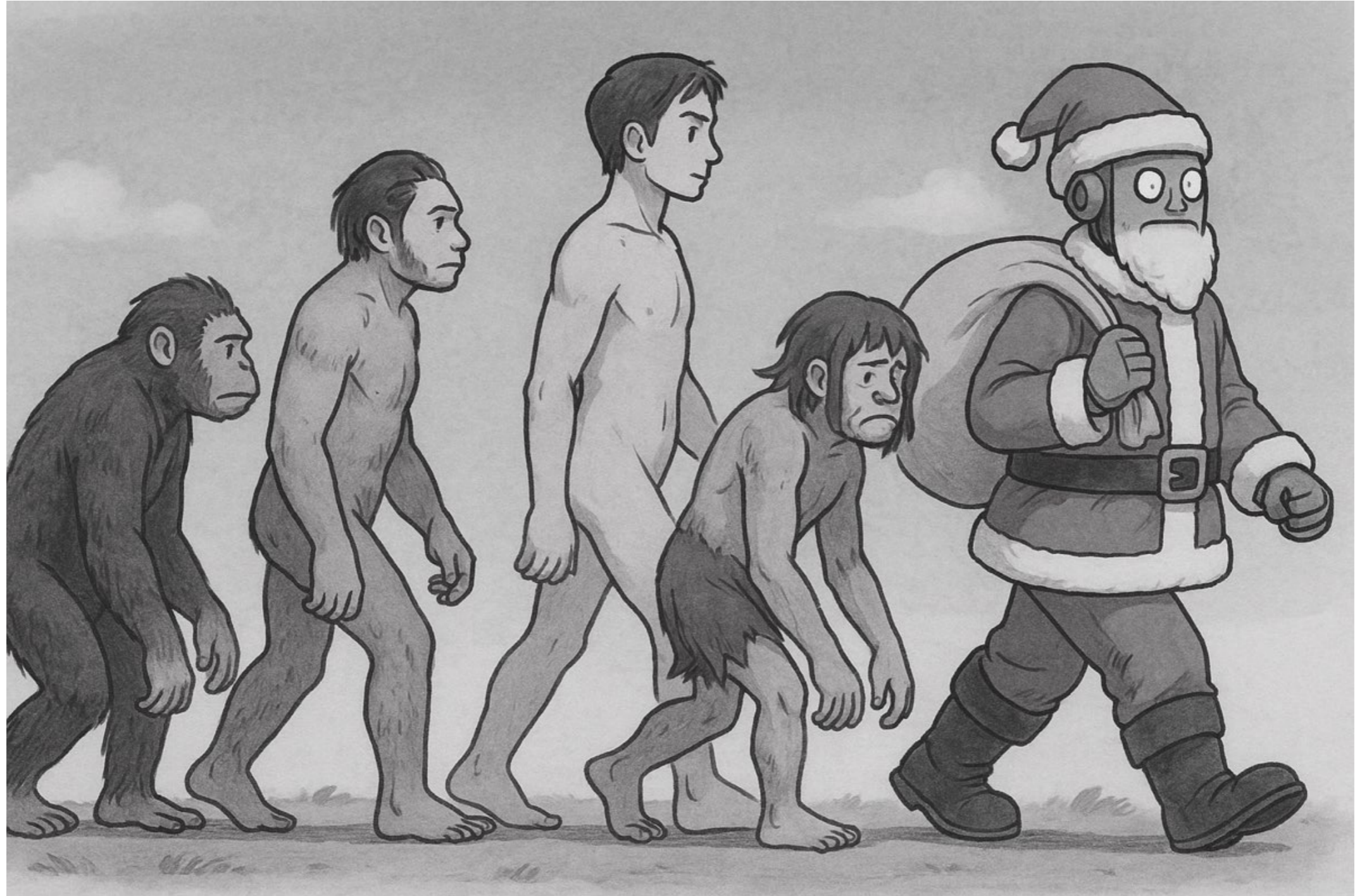
## Artificial intelligence, cognitive offloading and implications for education

March 2026

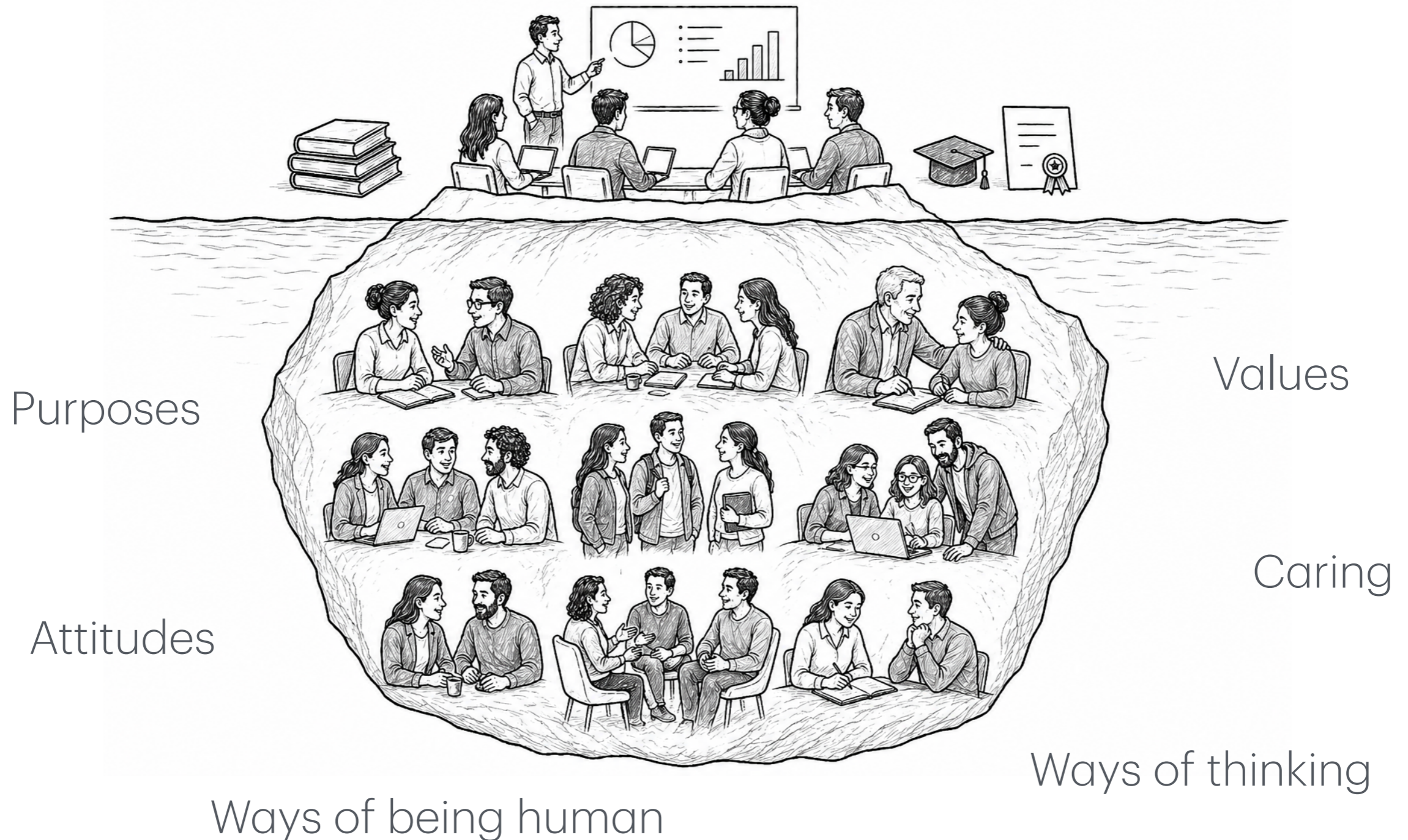
[Prof Jason M. Lodge](#) and [Prof Leslie Loble AM](#)



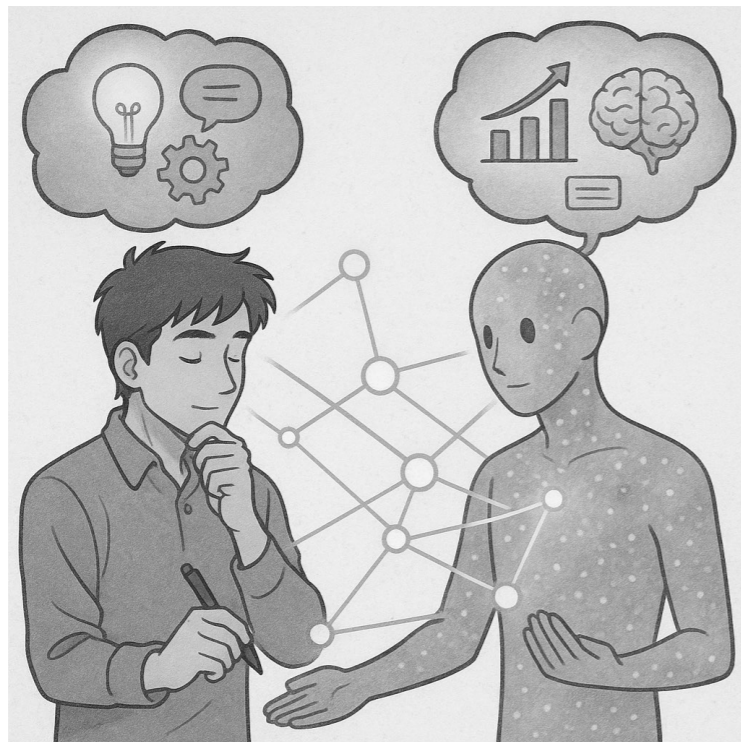
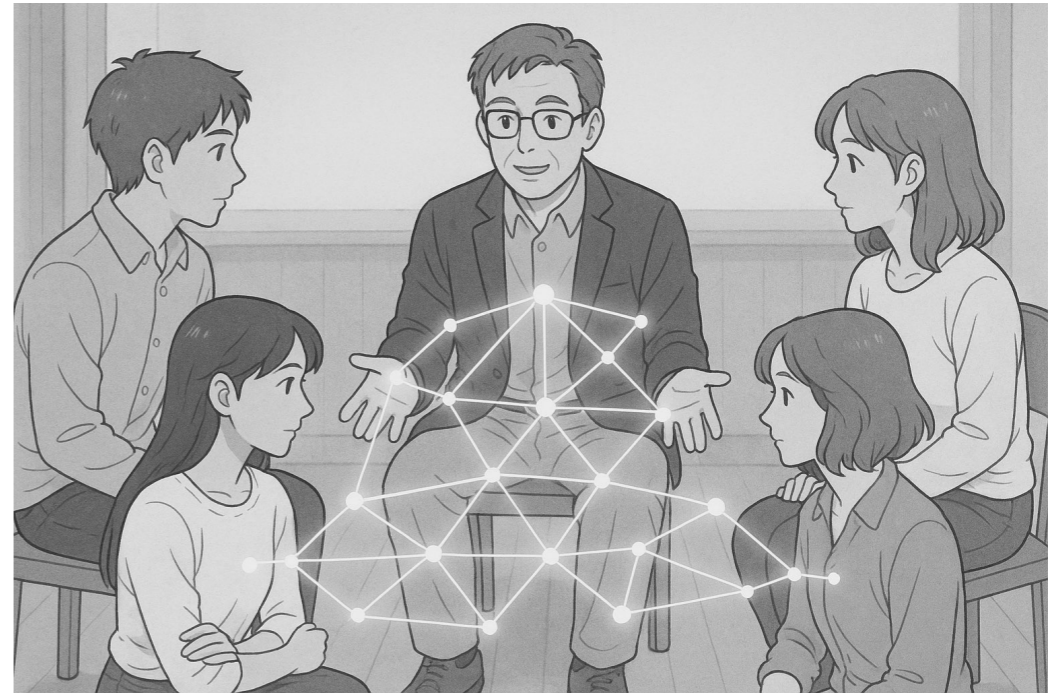
# Degenerative AI



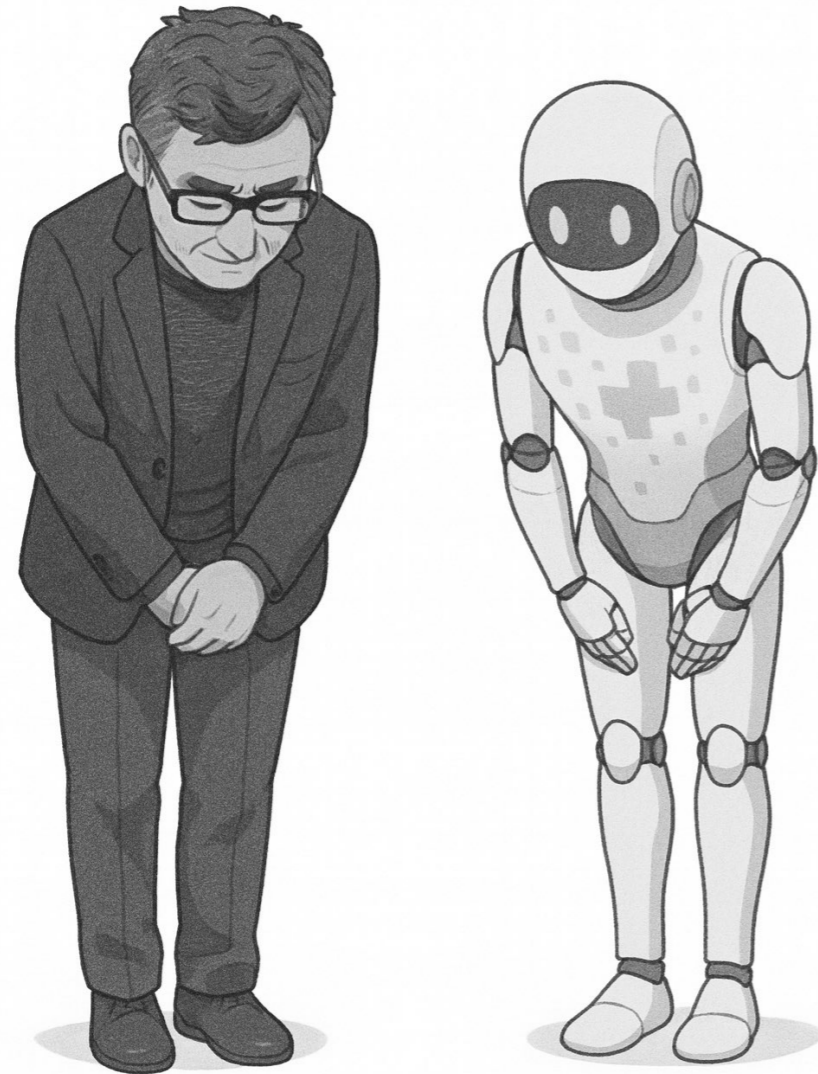
# The tacit curriculum



**Focus on the tacit,  
the relational, the  
social.  
Empower learners.  
Care.**



**Embrace co-  
participative  
cognition**



ありがとうございました。

Thank you

✉ [jond@athabascau.ca](mailto:jond@athabascau.ca)

🌐 <https://jondron.ca/>

📡 [@jondron@mastodon.social](https://jondron@mastodon.social)

🦋 [@jondron.bsky.social](https://jondron.bsky.social)

in <https://www.linkedin.com/in/jon-dron/>



<https://howeducationworks.ca> <https://teachingcrowds.ca>