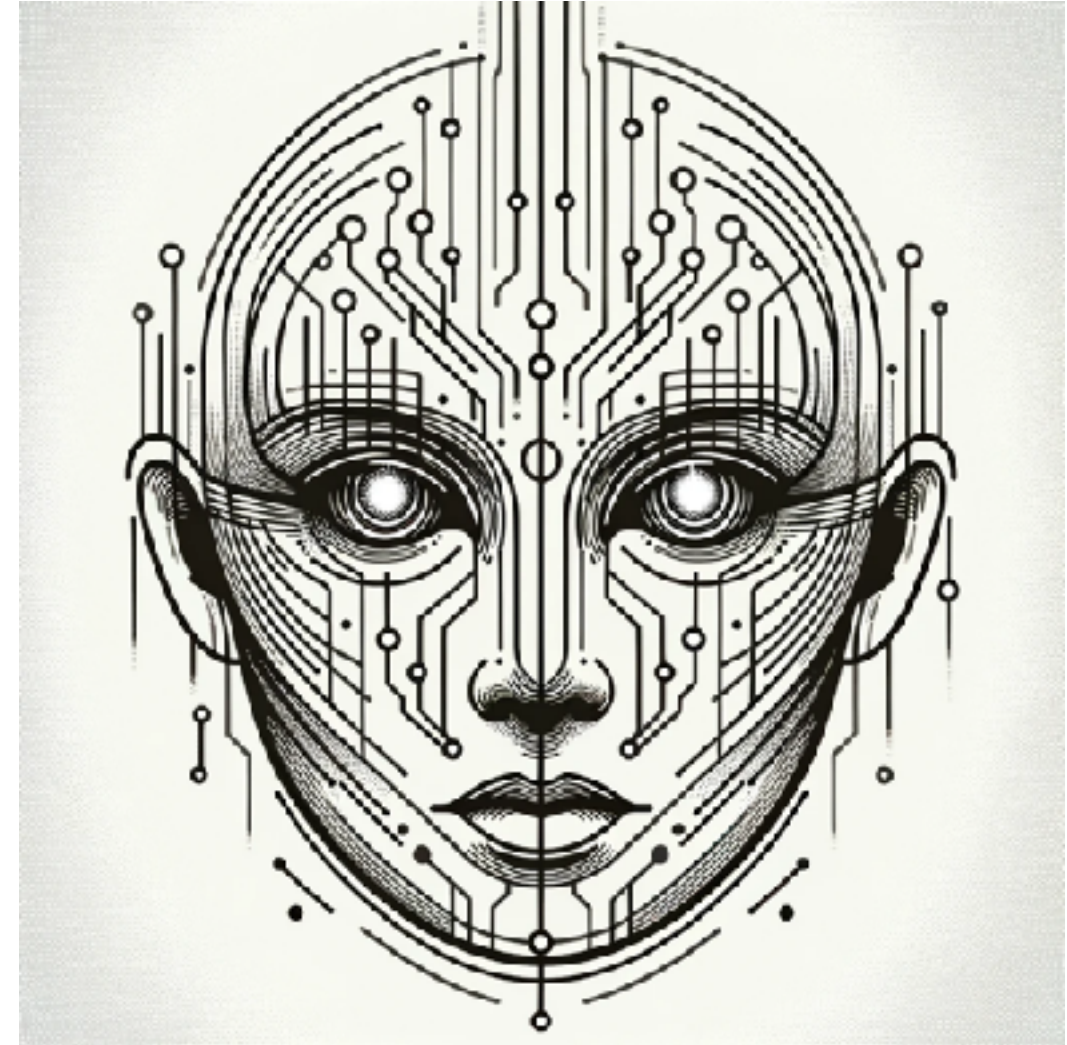


Educational ends and means

McNamara's Fallacy and the coming robot apocalypse



Self portrait - ChatGPT4



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



IFNTF

International Federation of
National Teaching Fellows

Tampere University: Jon Dron & ChatGPT+, January 2024

A few bad things I will probably *not* discuss today...



The AI apocalypse in the style of Leonardo, *ChatGPT+*

- hallucinations and unreliability
- student cheating
- bias
- the ethics of AI training
- privacy
- ownership of infrastructure
- job losses
- exploitation of creators
- environmental impacts
- the AI apocalypse

50 words about me, by ChatGPT+



Dr. Jon Dron, a Full Professor and Associate Dean of Learning and Assessment at Athabasca University, is a distinguished figure in online education. He specializes in technology-enhanced learning and social media. His latest book, "How Education Works: Teaching, Technology, and Technique," reflects his profound influence in the field.

A haiku about me, by ChatGPT+

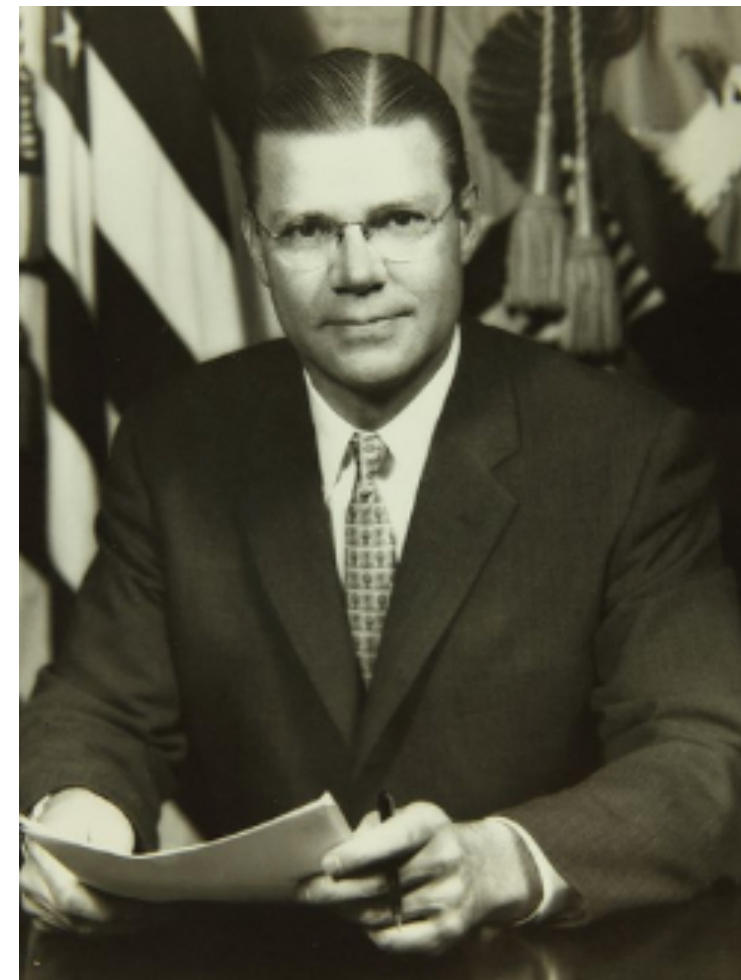
The image features a haiku by ChatGPT+ centered within a circular frame. The frame is set against a background with a halftone dot pattern. The haiku itself is in a clean, sans-serif font. Below the text, there is a silhouette of a bird in flight and a pine tree, adding a traditional Japanese aesthetic to the modern digital theme.

Athabasca's guide,
Dron teaches, tech intertwines,
Education's new tide.

McNamara's Fallacy

McNamara's Fallacy cautions against relying solely on quantifiable data for decision-making, warning that it omits crucial qualitative aspects. It underscores the limitation of numbers in capturing the full spectrum of complex realities, emphasizing that important elements often lie beyond the reach of metrics and thus remain unaccounted for.

—ChatGPT+'s explanation of McNamara's Fallacy, in precisely 50 words.



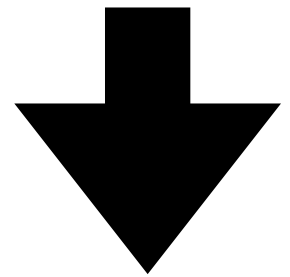
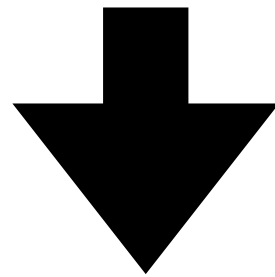
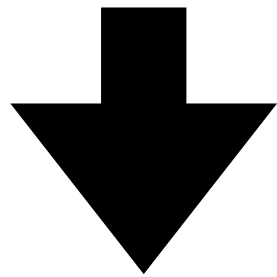
Robert McNamara

See, too, Goodhart's Law - when a measure becomes a target it ceases to be a good measure

Defining “technology”

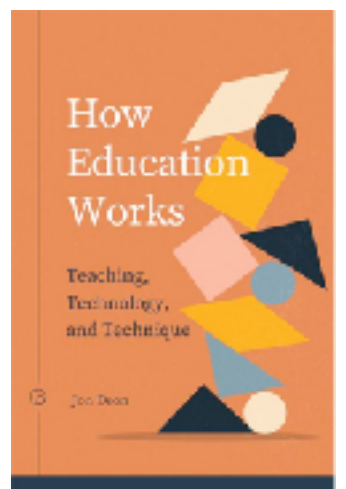
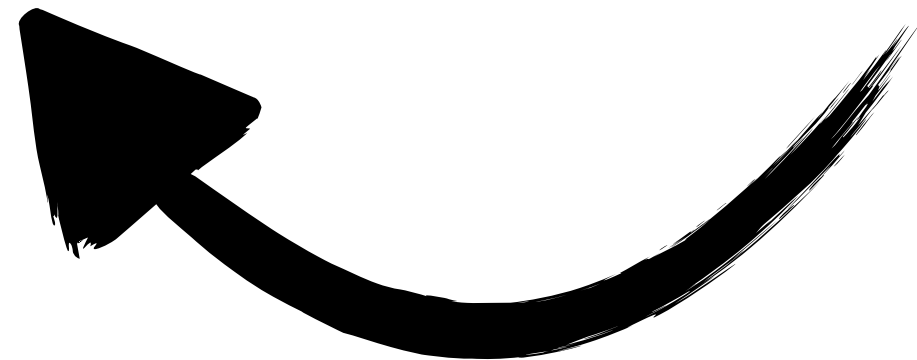
W. Brian Arthur:

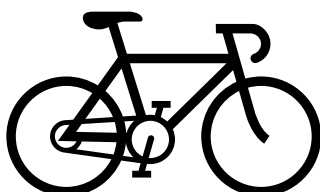
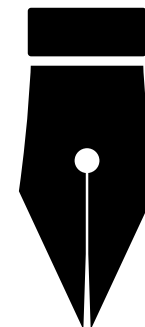
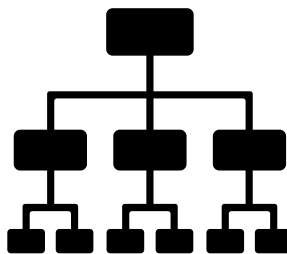
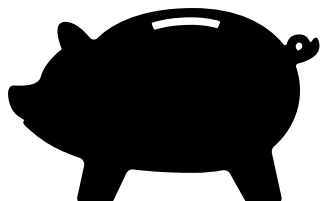
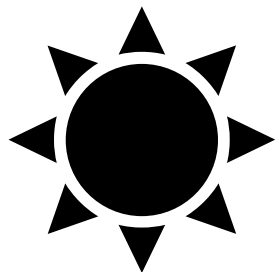
The orchestration of phenomena to our use



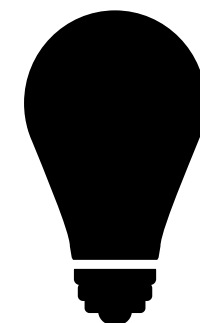
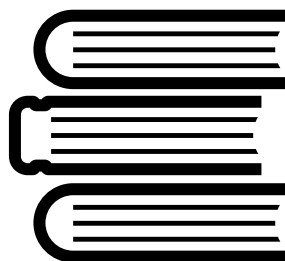
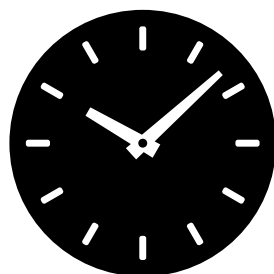
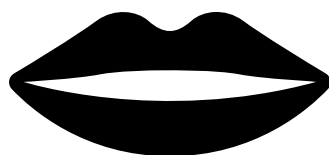
me:

organizing stuff to do stuff

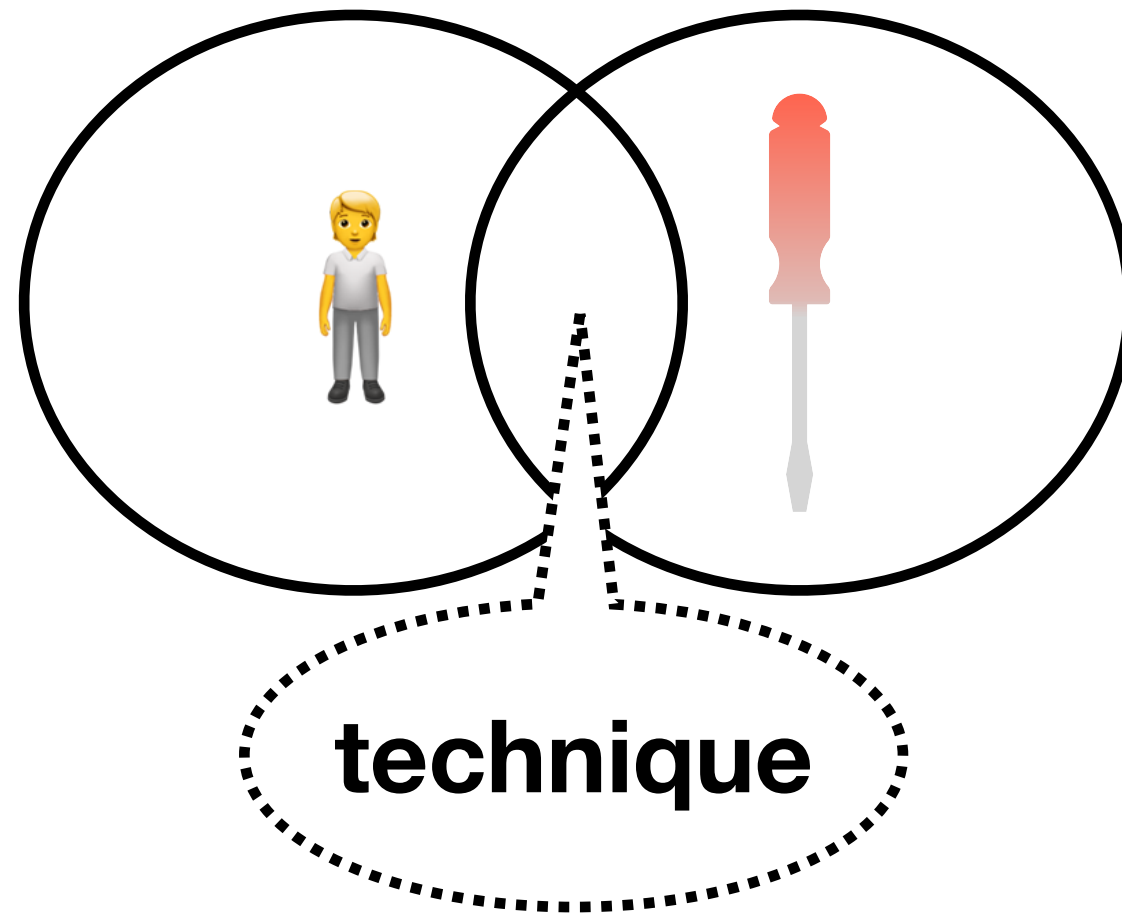




any
stuff



We are part-technology. Technology is part-us.



Participants, not (just) users

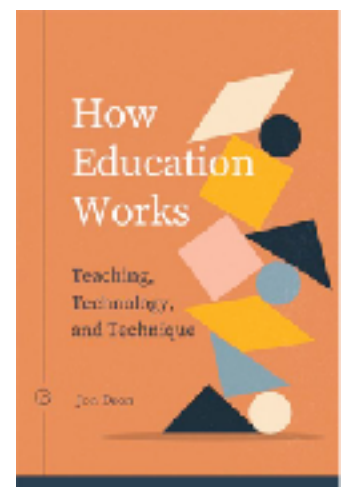
What can be done with this?



Technique

What we do with what has been done

A technology enacted by a human





Hard technique

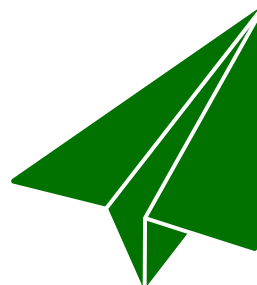
We are **parts** of the orchestration

(methods, processes, procedures that *must* be done correctly)

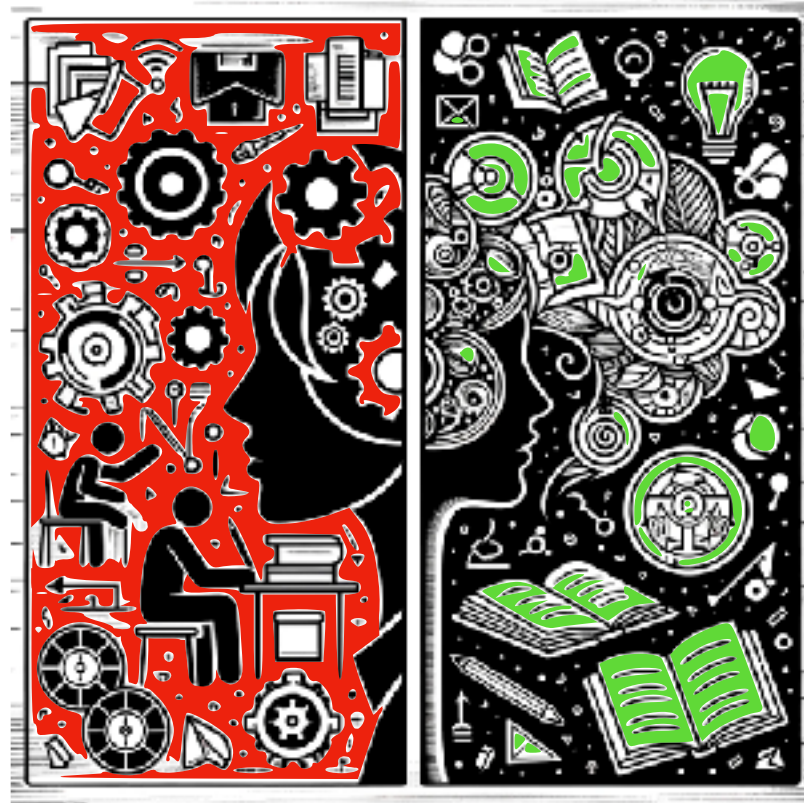
Soft technique

We **are** the orchestrators

(the *ways* we do stuff that can be done well but *never* correctly)



The hard enables the soft

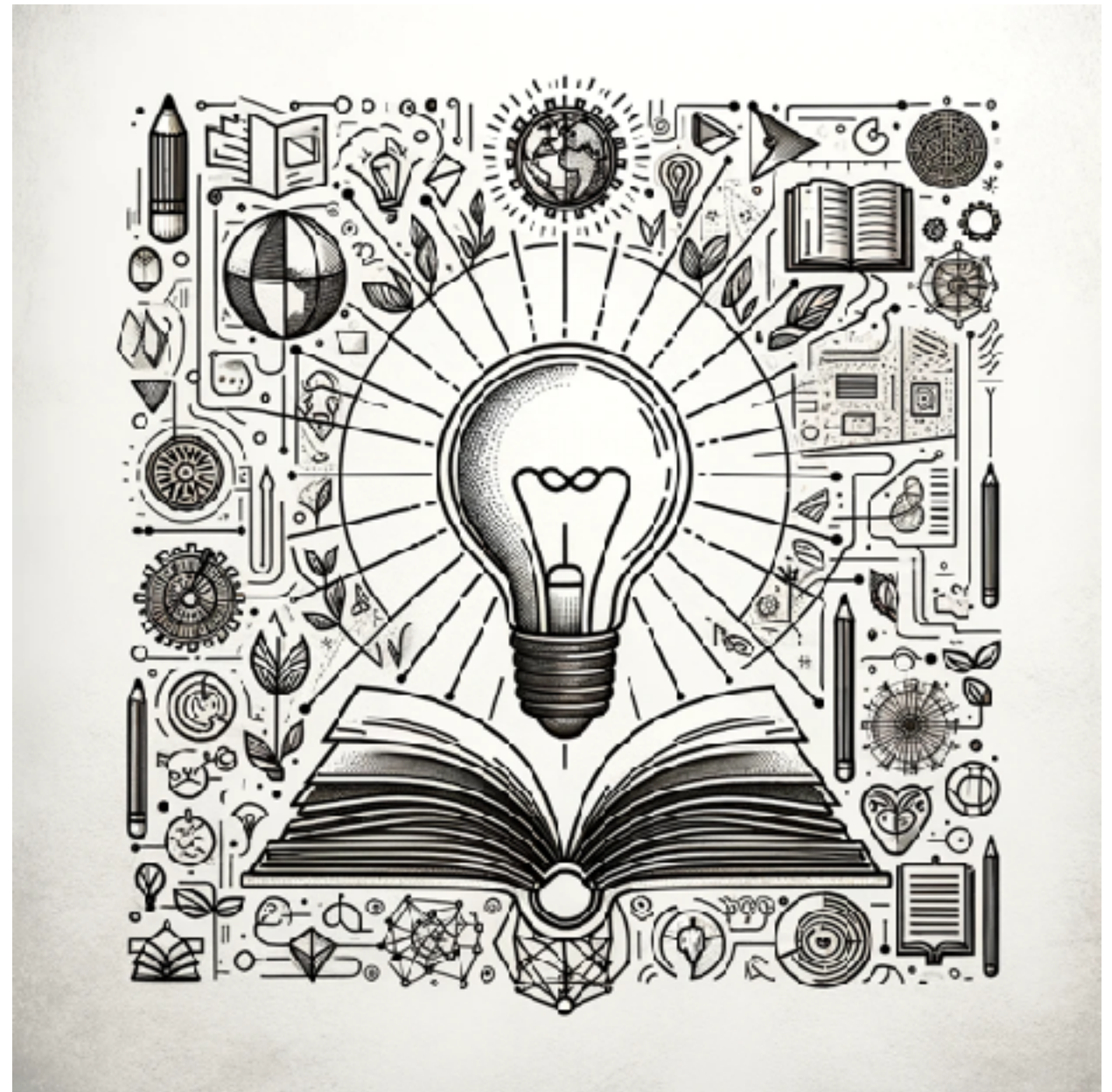


We learn to do in order
to learn to be

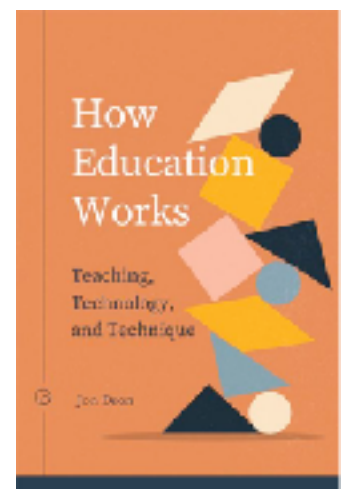
Education

Amongst other things, but fundamentally...

**A technology for
developing the
techniques needed
to participate in the
technologies of our
cultures and
societies**



Training for **hard** technique
Learning of **soft** technique



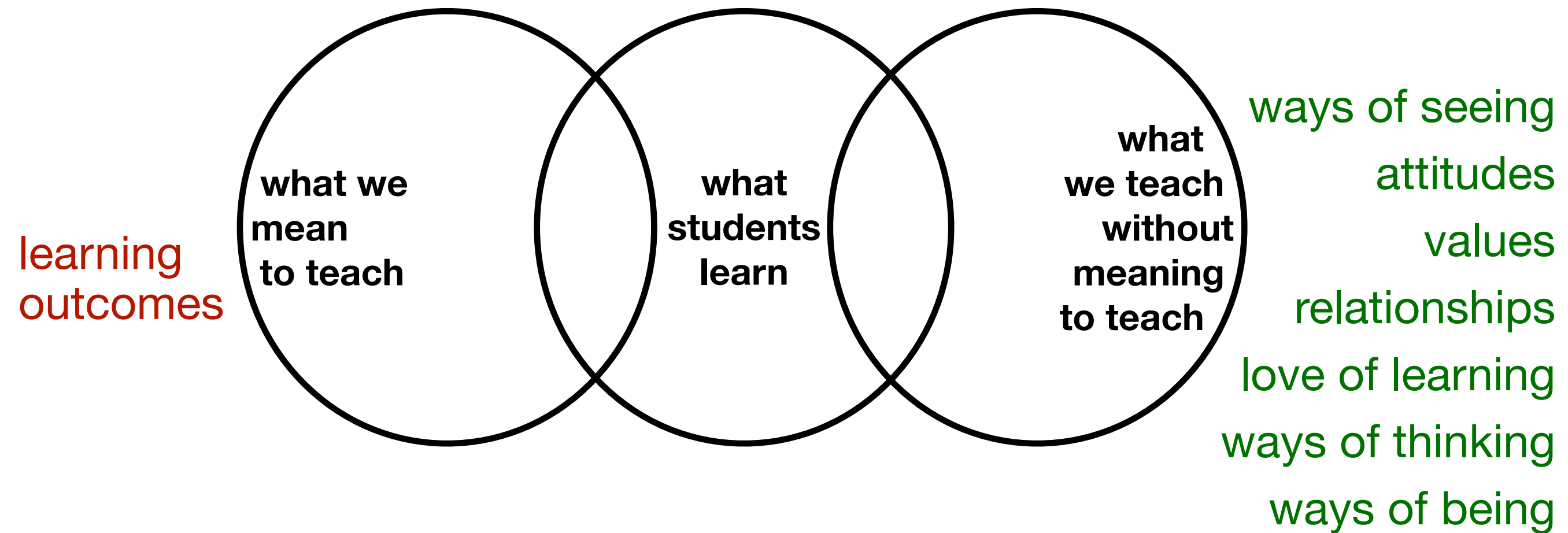
Many teachers



The grist



The mill



How to do stuff
Achieving credentials



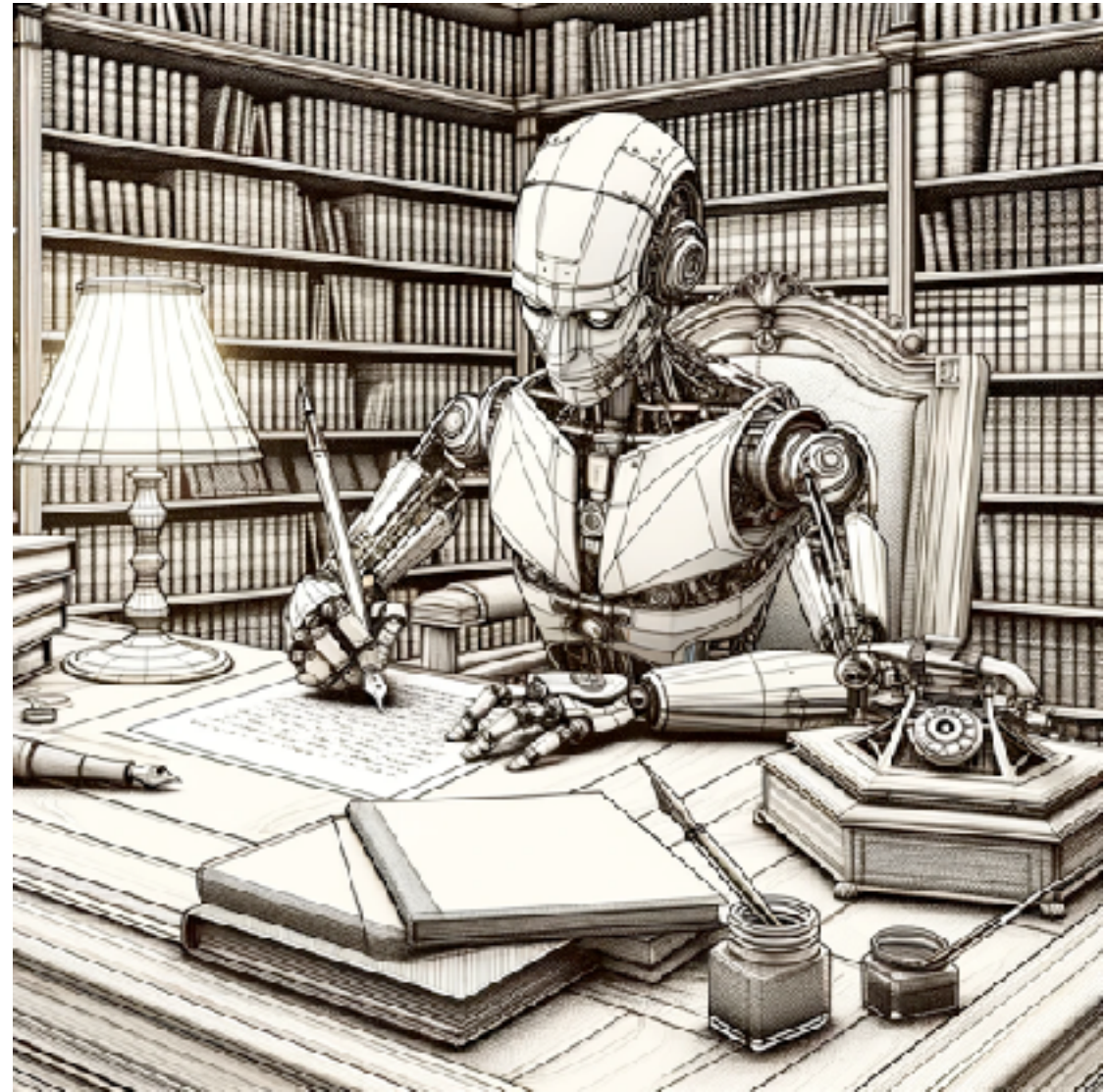
How to be human
in a human society

Until now, automation has replaced only **hard** technique

Generative
Als automate
and replace
soft
technique



**Generative
Als *use* other
technologies**





The originality of machines: AI takes the Torrance Test

Teachers Are Going All In on Generative AI

Surveys suggest teachers use generative AI more than students, to create lesson plans or more interesting assignments, but must be used carefully.

AI Is Telling Bedtime Stories to Your Kids Now

Artificial intelligence can now tell tales featuring your kids' favorite characters. It's copyright chaos—and a new era of bedtime stories.

Human-like problem-solving abilities in large language models using ChatGPT

AI companions to replace the prospectus?

Science News

AI tests into top 1% for original creative thinking

Date: July 6, 2023

The University of Montana
New research suggests artificial intelligence can think like a human on a standard

Share: f t p in e

Jill Watson Suite of Online Learning Tools

The Evolution of Jill Watson						
	2016	2017	Summer 2019	Fall 2019	Sept 2021	Spring 2023
Agent Creation	Manually by students	Manually by agents	Agent Suite syllabus	Agent Suite syllabus	Agent Suite user guide	Agent Suite by meta-agent
In-class use	100 Watsons	50 Watsons	100%	100%	100%	100%
Creation time	1500 hours	200 hours	20 hours	20 hours	20 hours	20 hours
Costs	\$0	\$0	\$0	\$0	\$0	\$0
Monitor	20% average 80% manual	80% average 20% manual	80% average 20% manual	80% average 20% manual	80% average 20% manual	80% average 20% manual
Meta-agent	10 examples	100 examples	100 examples	100 examples	100 examples	100 examples

*Fall 2021 introduced a Community-Building Bot, which enabled students to open to participants



AI Teaching Assistant Pro

Reduce Your Workload – Enhance Your Teaching

- ✓ Your personal teaching assistant to help you with any topic or subject!
- ✓ Easily create multiple-choice tests and exams with AI-powered efficiency!
- ✓ Develop course descriptions, outcomes, and syllabi with a few clicks!



Full lesson - generator

Default creator studio
Updated 13d ago

100%

8722 926 16559

Generator description

Create a great starting point for a full lesson including instructional slides and activities.

Generator inputs

Class

Professional development

Learning resources or topic

JavaScript programming

Generate

Latest version of ChatGPT aced bar exam with score nearing 90th percentile

Conferences > 2021 5th International Conference...

GALGOBOT – The College Companion Chatbot

Publisher: IEEE

Cite Title

PDF

Saksham Sarawat; Siddhartha Mishra; Vikas Mani; Shristi Priya All Authors

5 Cites in Papers

291 Full Text Views

Hi, I'm Khanmigo! Ask me anything – I'm your new learning guide!



AI-Assisted Lesson Planning.

Eduaide.AI is an AI-driven platform that helps educators create lesson plans, teaching resources, and assessments.

Can ChatGPT Understand Too?

A Comparative Study on ChatGPT and Fine-tuned BERT

ChatGPT+ benefits to teachers (in 50 words, according to ChatGPT+)

ChatGPT+ offers teachers instant access to a vast information repository, enhancing lesson planning with diverse insights. Its AI-driven suggestions foster creative teaching approaches and personalized learning experiences. Additionally, it serves as a reliable tool for administrative tasks, reducing workload and allowing teachers more time to focus on student engagement and instruction.

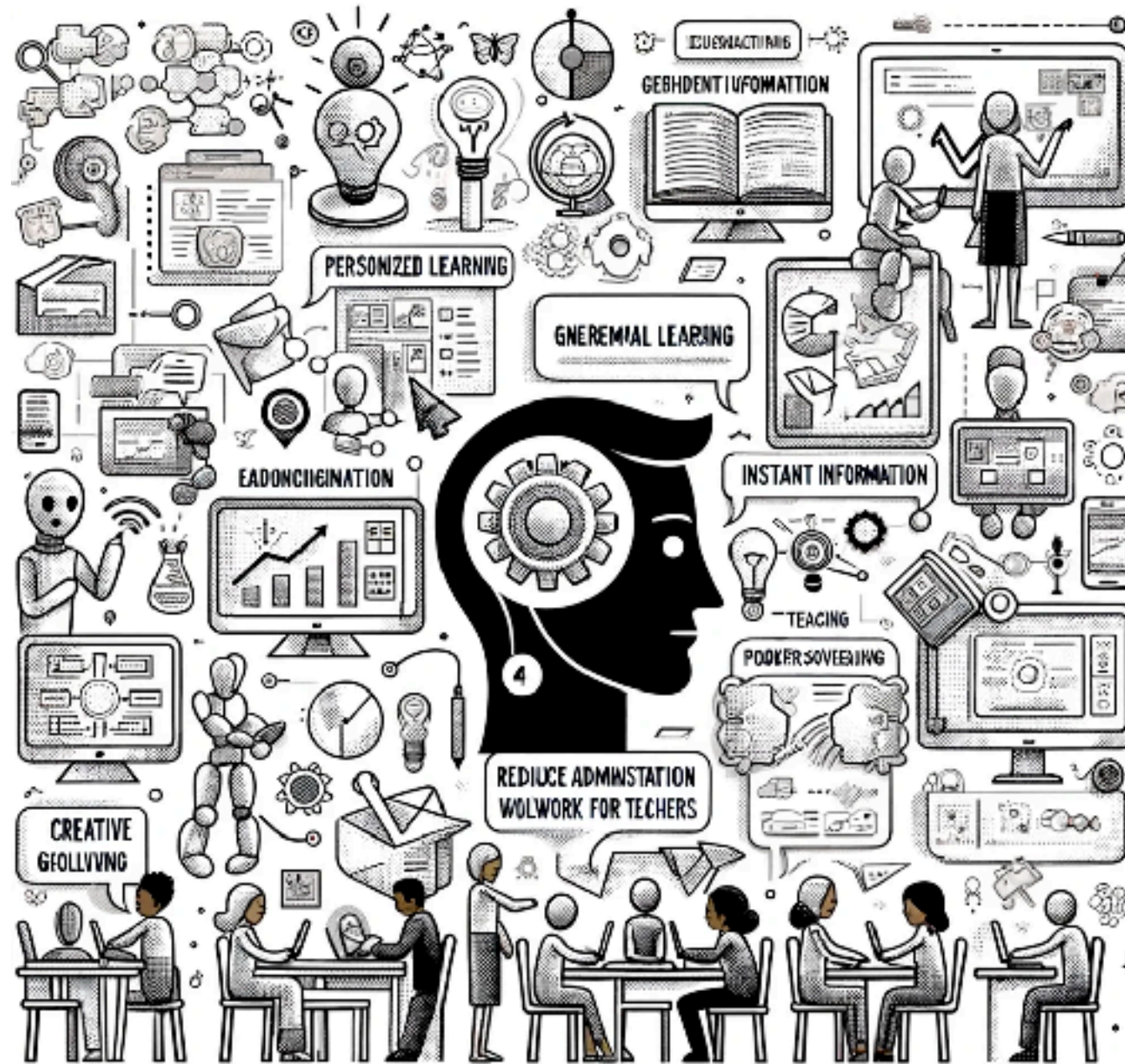


ChatGPT+ benefits to learners (in 50 words, according to ChatGPT+)

ChatGPT+ aids learners by providing instant, diverse information, clarifying complex topics, and offering personalized educational support. It enhances self-paced learning, encourages exploration and curiosity, and assists in research and homework. The tool's interactivity fosters engagement, making learning more dynamic and adaptable to individual needs and learning styles.



Generative AIs can be an excellent means to improve learning outcomes and educational attainment



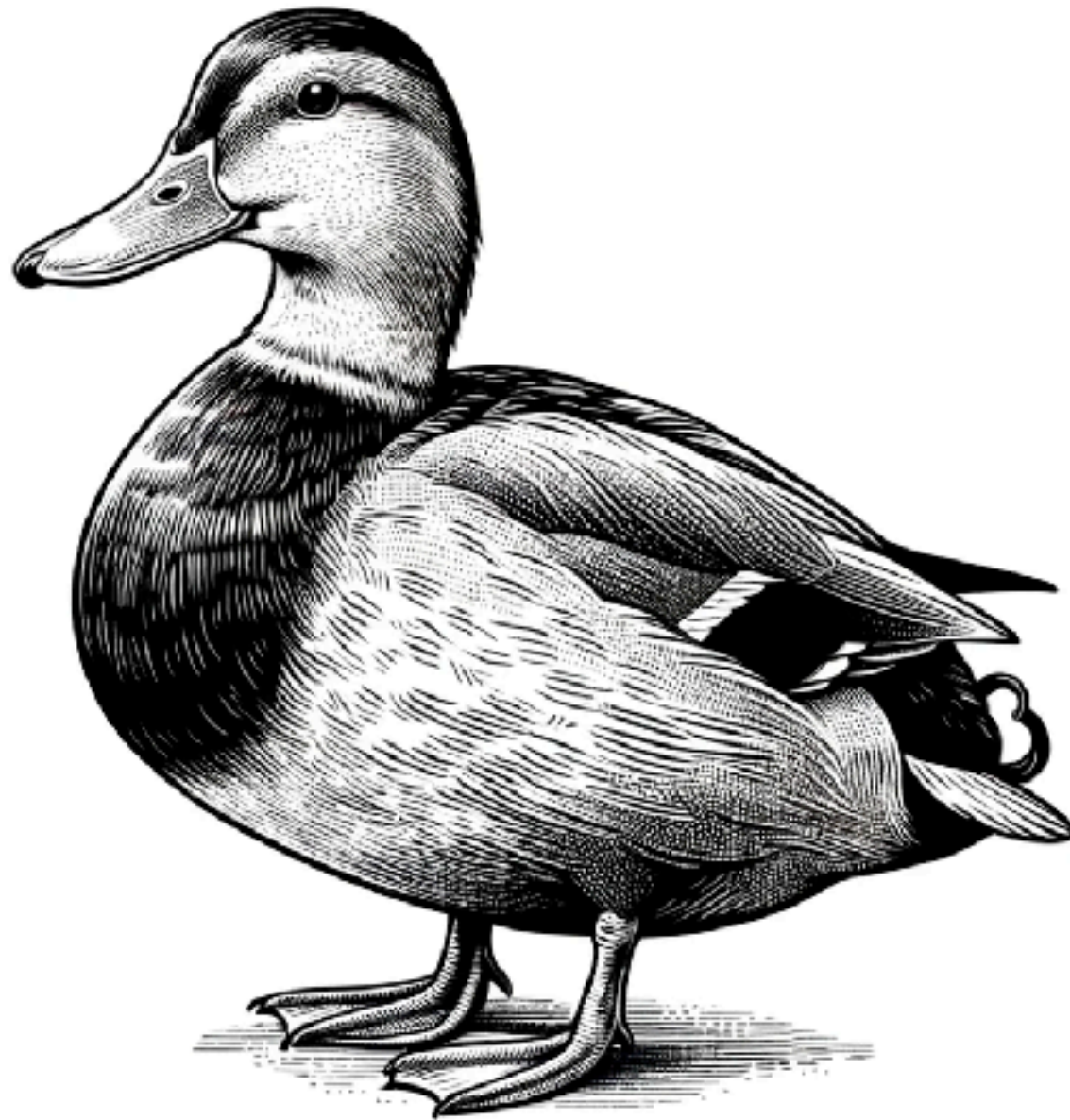
(as we measure such things)



Generative AI can be a great teacher

(as we measure such things)

If it walks like a duck...



But...



**ChatGPT doesn't have
to empty the cat litter
tray**



No one will ever pay \$5m for an original ChatGPT manuscript



Part of the manuscript of Mahler's 2nd symphony

Or \$2.4m for a mass-produced guitar once played by an AI....

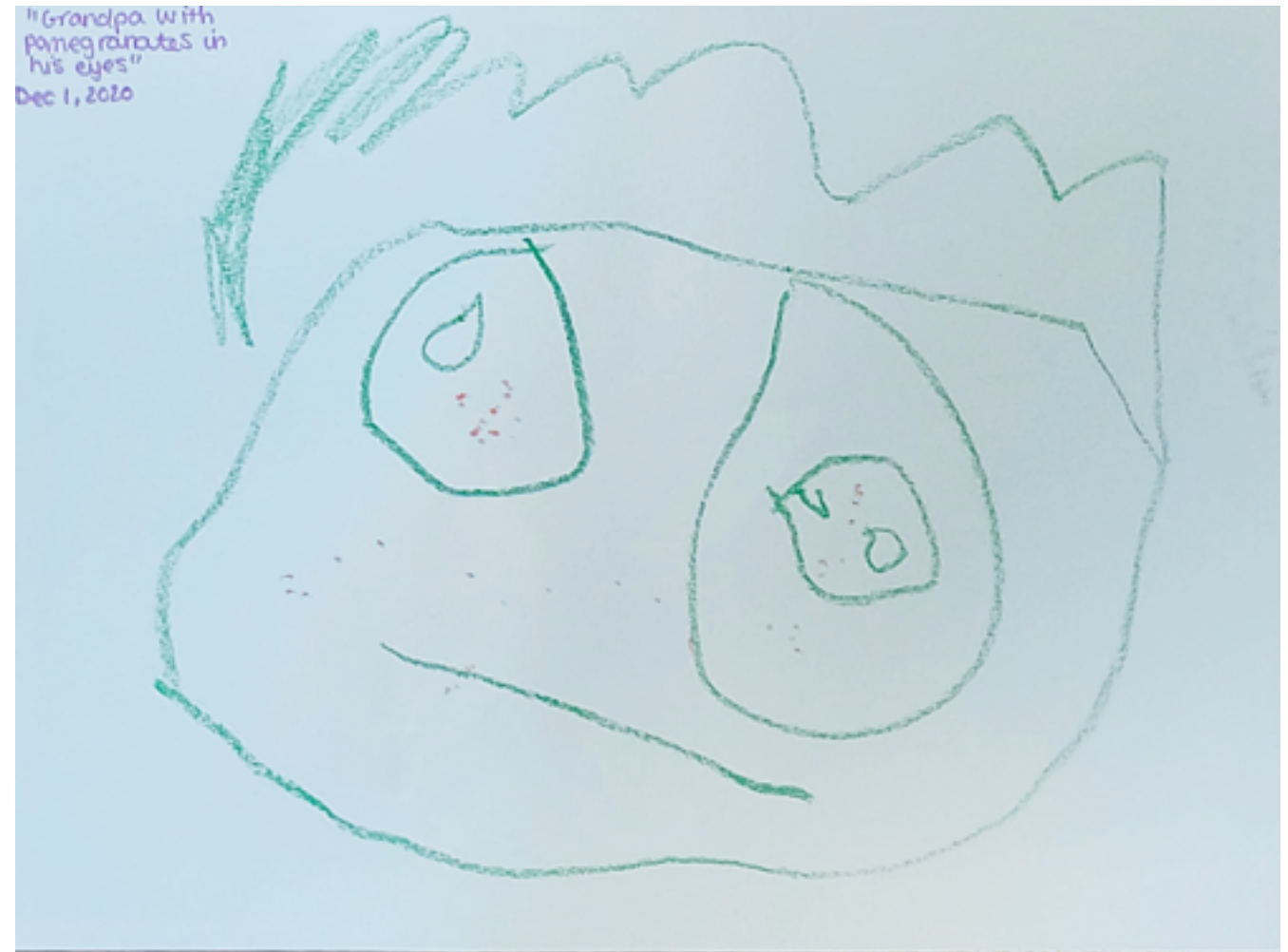


John Lennon's Gibson J-160E

Guess which image I prefer?



Grandpa with pomegranates in his eyes, by ChatGPT+



Grandpa with pomegranates in his eyes, by Jasper, age 3

What do children learn from stories?



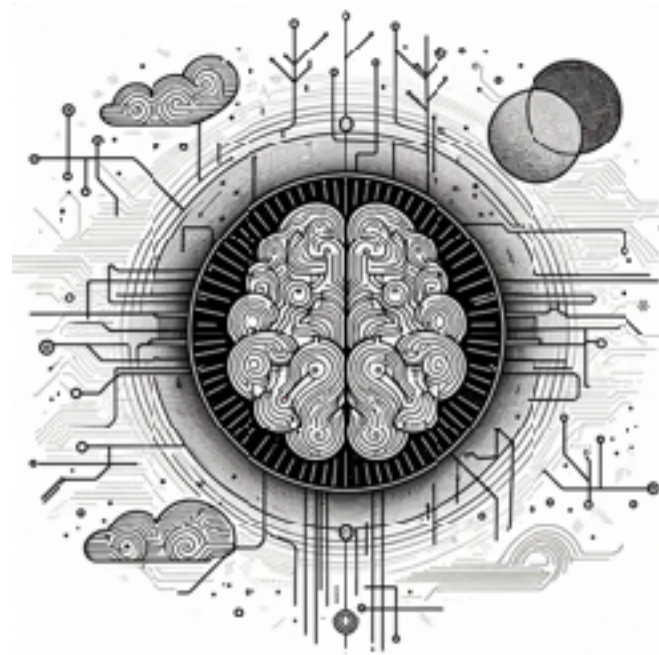


**What happens when we learn to
be human from things that are
not (quite) human?**

No identity

No relationships

No values



No passion

No beliefs

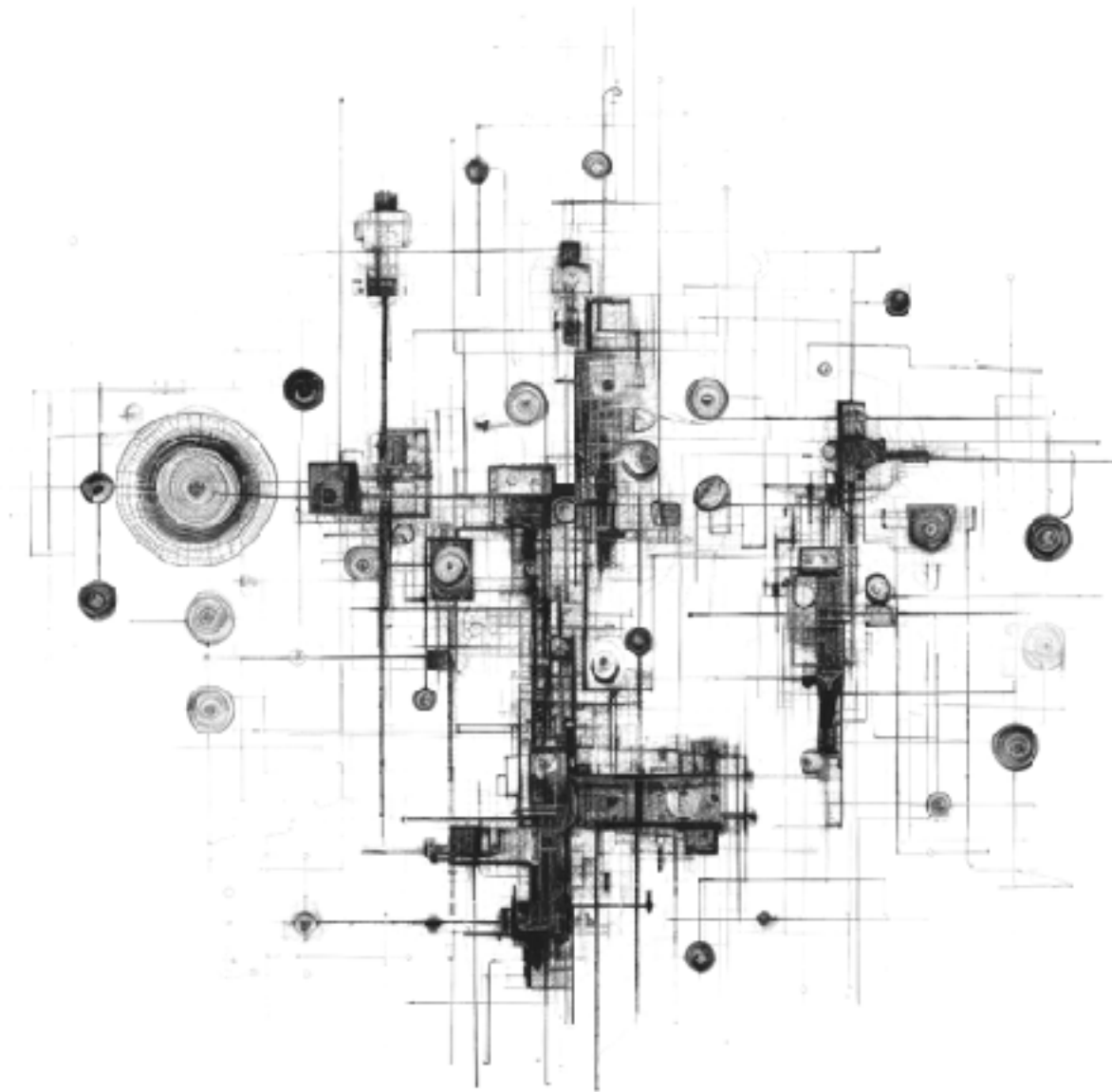
“ChatGPT” by ChatGPT

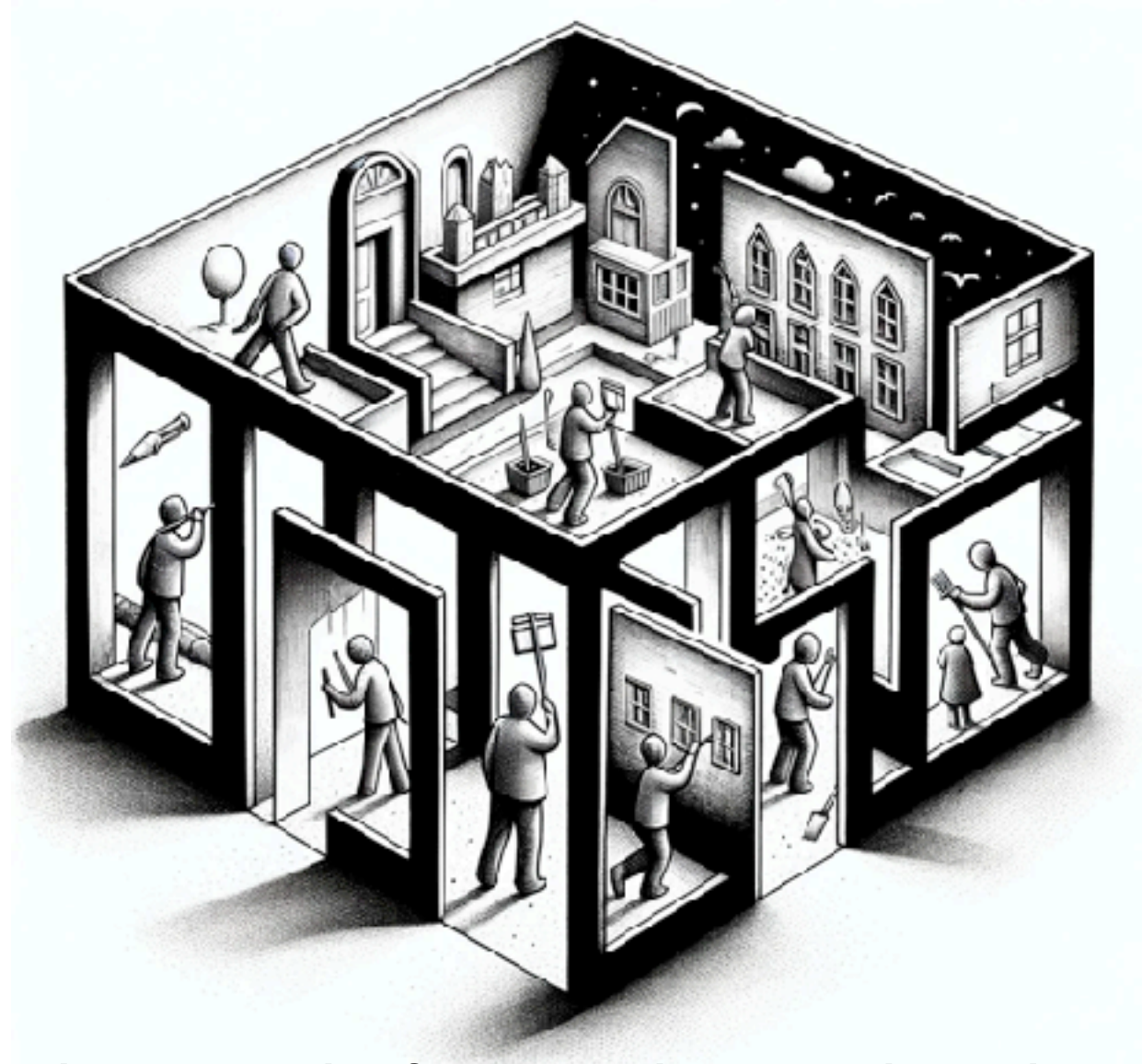
No life history

No intention

No skin in the game

Signals, but no signification





“We shape our dwellings and afterwards our dwellings shape our lives”
(Churchill, as interpreted by ChatGPT+)

This doesn't scale well

A dystopian future?

Soft skills that
atrophy

Soft skills that
are never learned

A loss of
meaning



A dystopian future?

**Learned ways of being
that are not quite
human**

**Machines trained on
the output of machines**

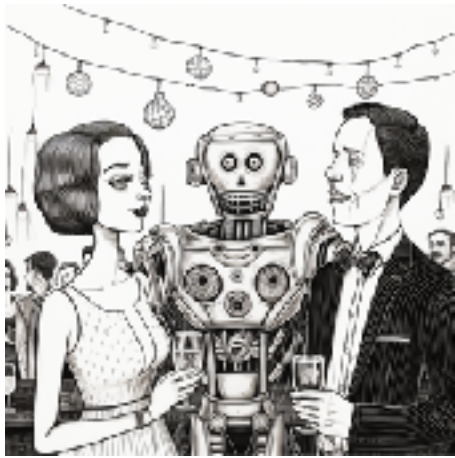
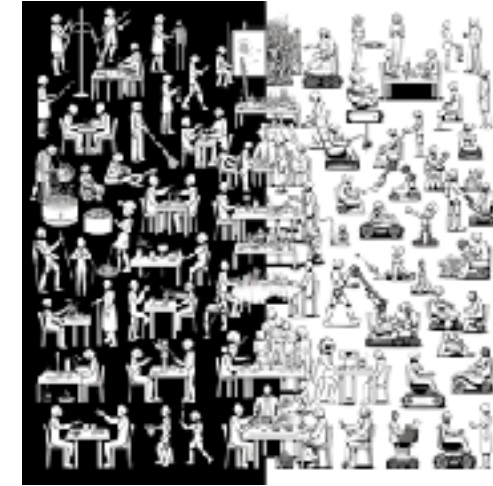
**Machines trained on
the output of people
who are taught by
machines**



Valorizing the human in an age of machines




Generative AIs with separate, non-overlapping roles



Generative AIs to support human connection

Education as a community vs education as a product

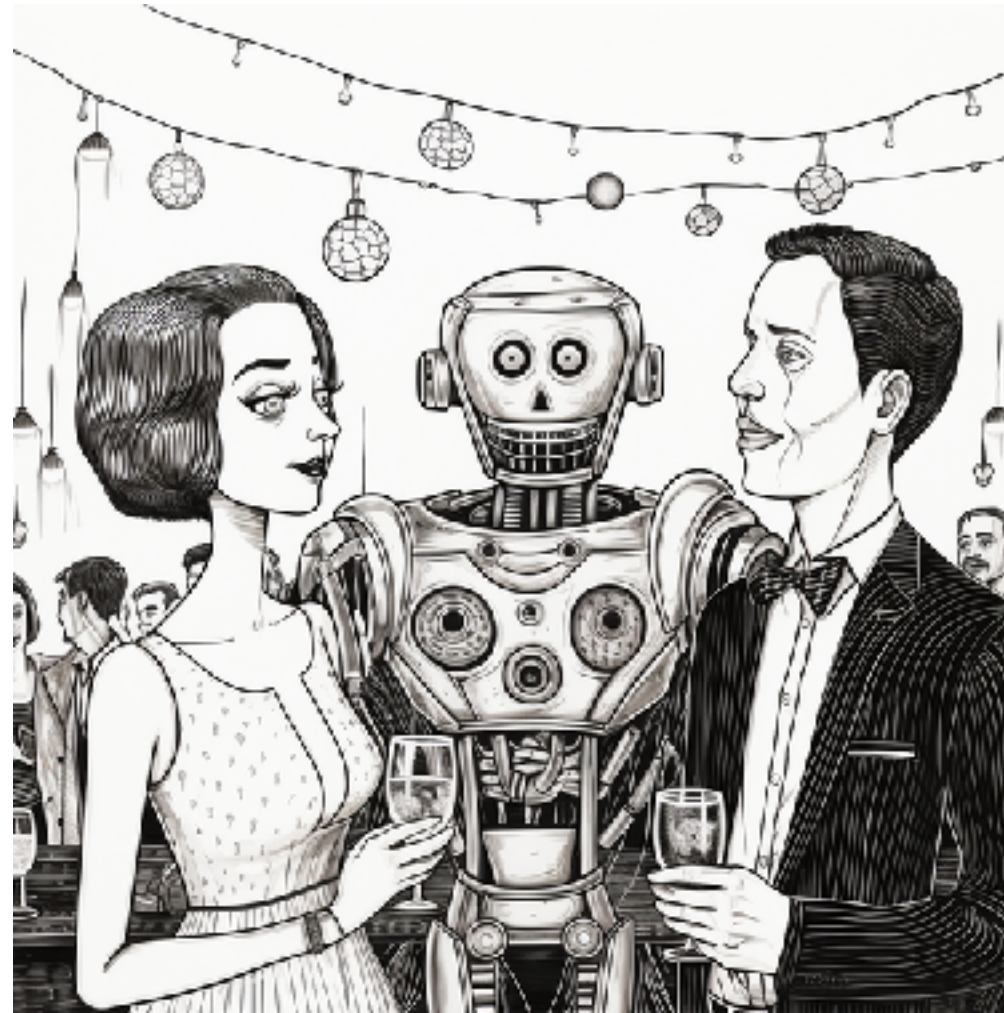


A black and white illustration. On the left, a man with dark hair, glasses, a mustache, and a goatee is shown in profile, wearing a suit and tie. On the right, a robot with a detailed, mechanical head and torso is shown in profile, facing the man. Their hands are clasped in a handshake. The background is plain white.

Contractors, team members, and partners, but not tools

Separate roles, not overlapping

Supports for human connection



Contributors, matchmakers, catalysts, summarizers

Reclaiming the social



**Community and connection
vs product and process**



Revaluing human fingerprints and traces

Refocusing education

With whom

Where

Why

In what way

not (just) what
and how



Growth

Connection

Meaning

Value

**not grades
and
credentials**

Free to read
and
download

Thank you

Here's a paper...

Dron, J. (2023). The Human Nature of Generative AIs and the Technological Nature of Humanity: Implications for Education. *Digital*, 3(4), 319–335. <https://doi.org/10.3390/digital3040020>

<https://www.mdpi.com/2673-6470/3/4/20>

✉ jond@athabascau.ca

🌐 <https://jondron.ca/>

🐘 [@jondron@mastodon.social](https://mstdn.ca/@jondron)



For the theory behind all this, read the book...

<https://howeducationworks.ca>

