

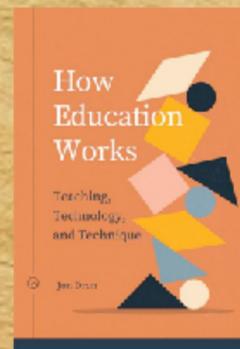
jond@athabasca.ca
<https://jondron.ca>

It's a technology problem

How education doesn't work and why we shouldn't fix it

TRU Teaching Practices Colloquium

Jon Dron, February 2025



“When you invent the ship, you also invent the shipwreck; when you invent the plane you also invent the plane crash; and when you invent electricity, you invent electrocution.”

Paul Virilio. *Politics of the Very Worst*, New York: Semiotext(e), 1999, p. 89

en Français - *Cybermonde, la politique du pire*



**What do you
get when
you invent
education?**

Monkeys' Paws and Faustian Bargains

Make a wish!



Technology

Me:

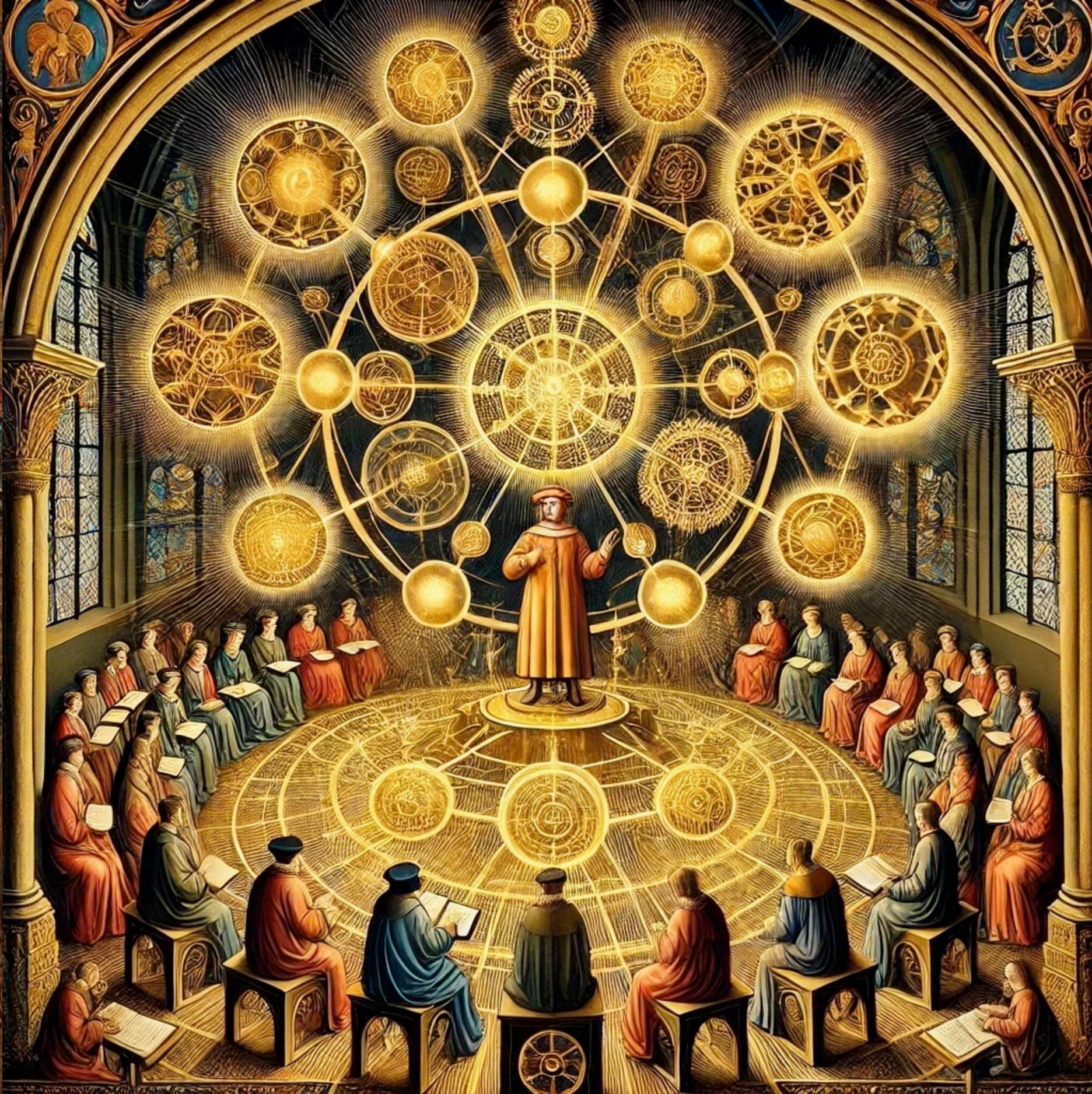
Organizing stuff to do stuff

W. Brian Arthur:

The orchestration of phenomena to
our use

Arthur, W. B. (2009). *The Nature of Technology: What it is and how it evolves*. Free Press.



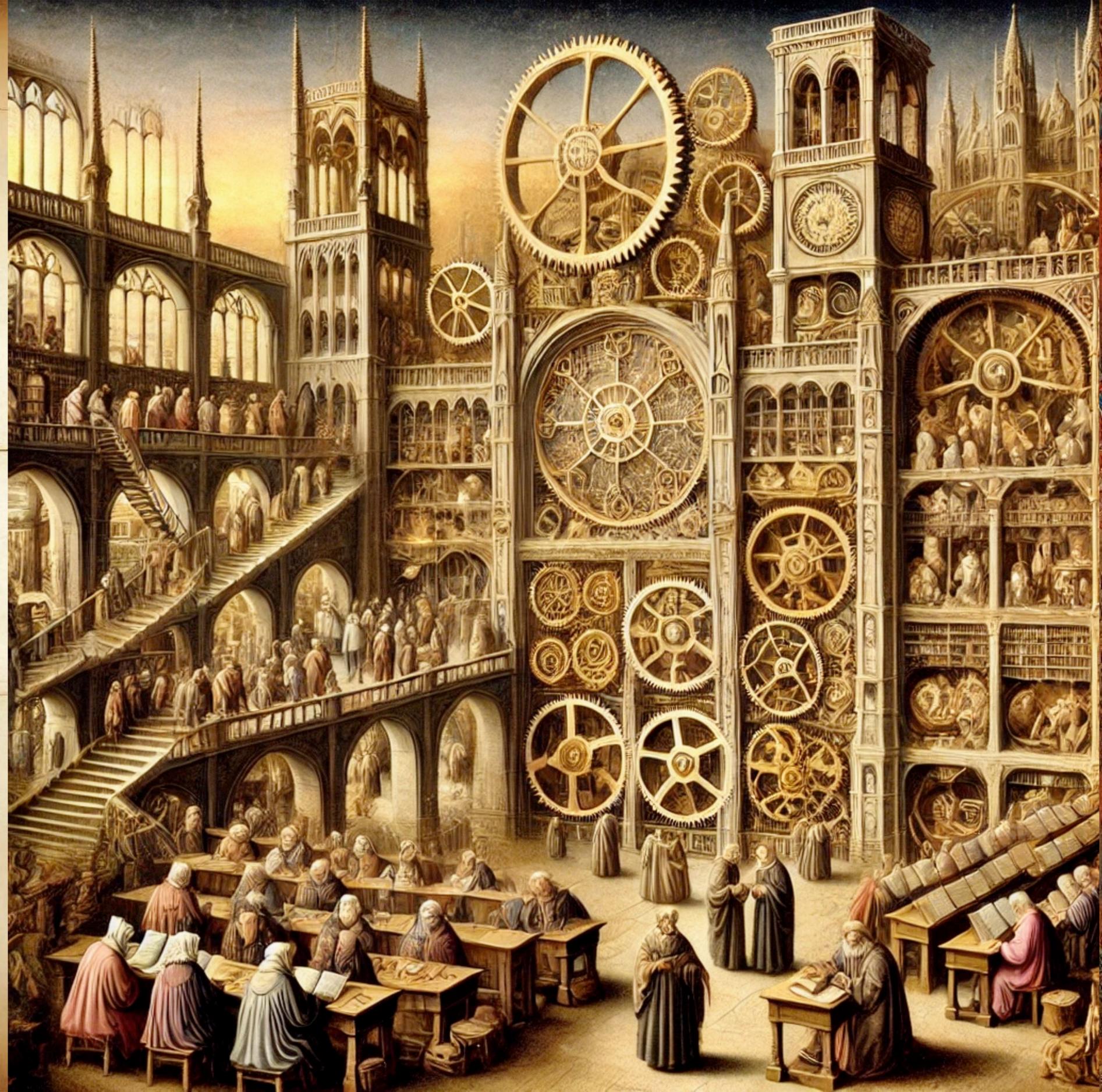


Any stuff.

Including
stuff
organized
to do stuff

An institution **is** a vast technology.

It is **part of** a vaster web of technologies, and **consists of** vast numbers of technologies



Pedagogies (methods of teaching) are technologies, too



you are a learning technologist



Everything is
intertwined.

There are no
naked
pedagogies

Technologies are
assemblies.

And we are parts
of them and they
are parts of us





**Adjacent
possibles
and path
constraints**





**counter-
technologies**





**Each use
of a
technology
is also a
technology**

humans as parts of
the organization of
stuff

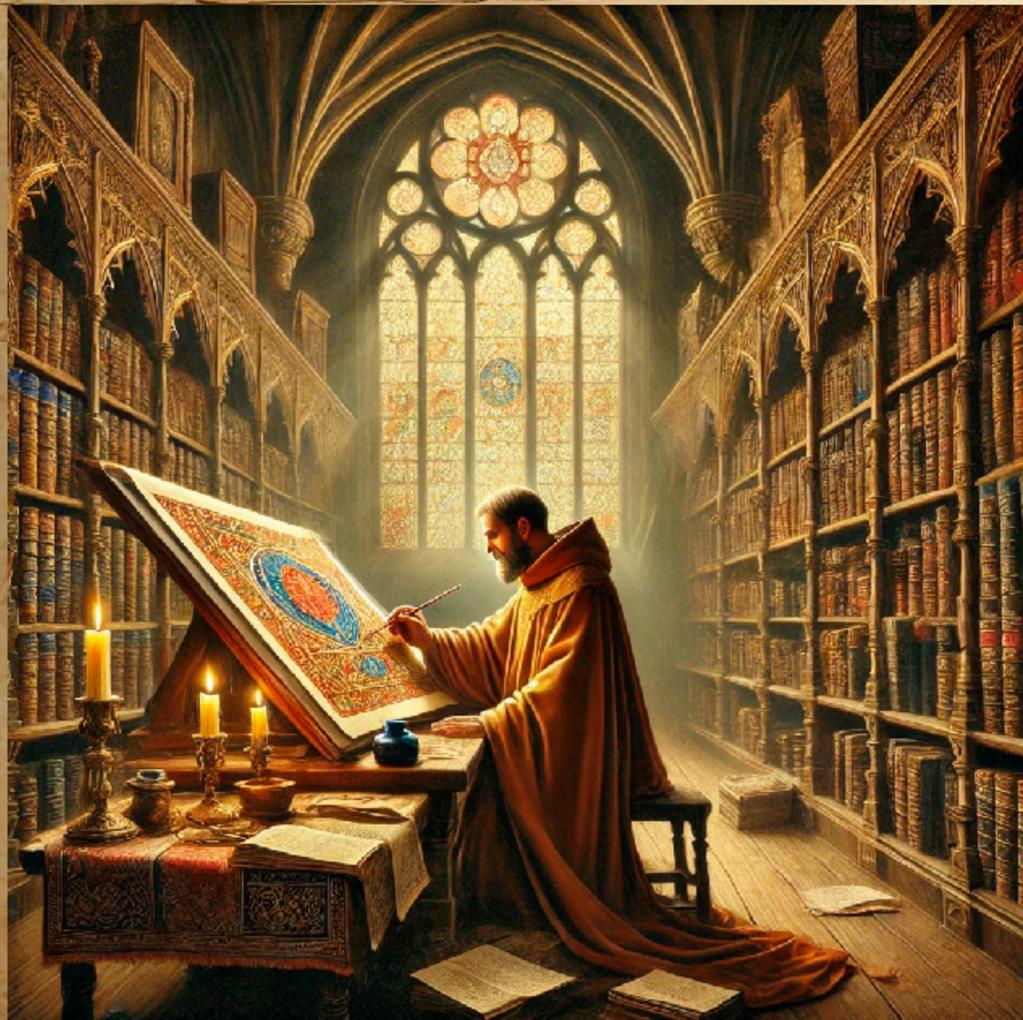


vs.



humans as
organizers of stuff
(usually both)

hard technique



vs.



soft technique

T'ain't what you do, it's the way that you do it

It is not just *what*
you do but *how* you
do it,

how everyone else
does it (especially
learners),

and how it fits with
all the other stuff



That's what gets results

Education
is not not
just a result
of teachers
teaching.
Institutions
teach



**ONLY
THE
WHOLE
MATTERS**



Teaching is weird

Good methods often fail.

Bad methods often succeed.

It can work without a teacher.

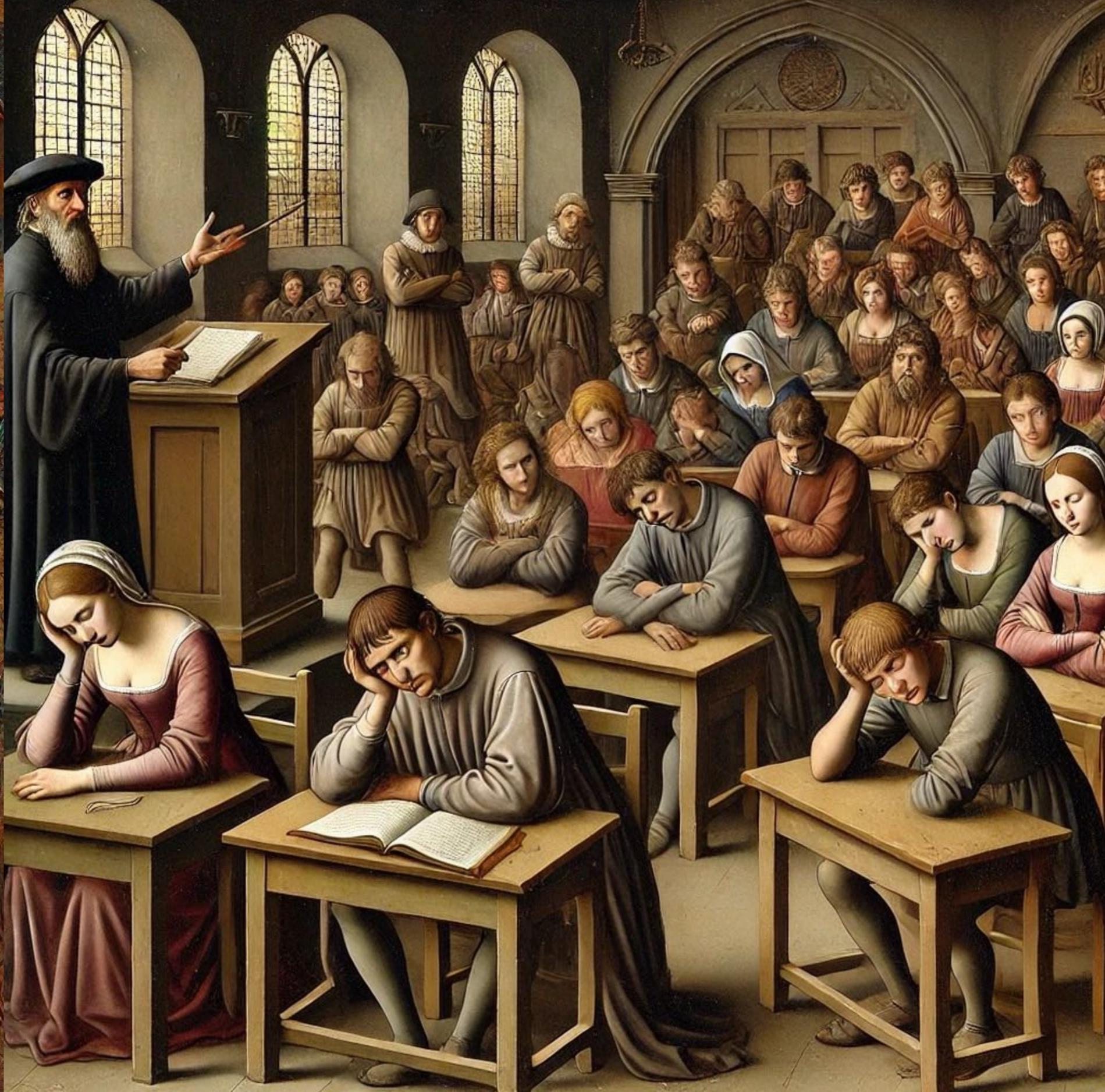


So, it's a
technology.

But what is
education
for?

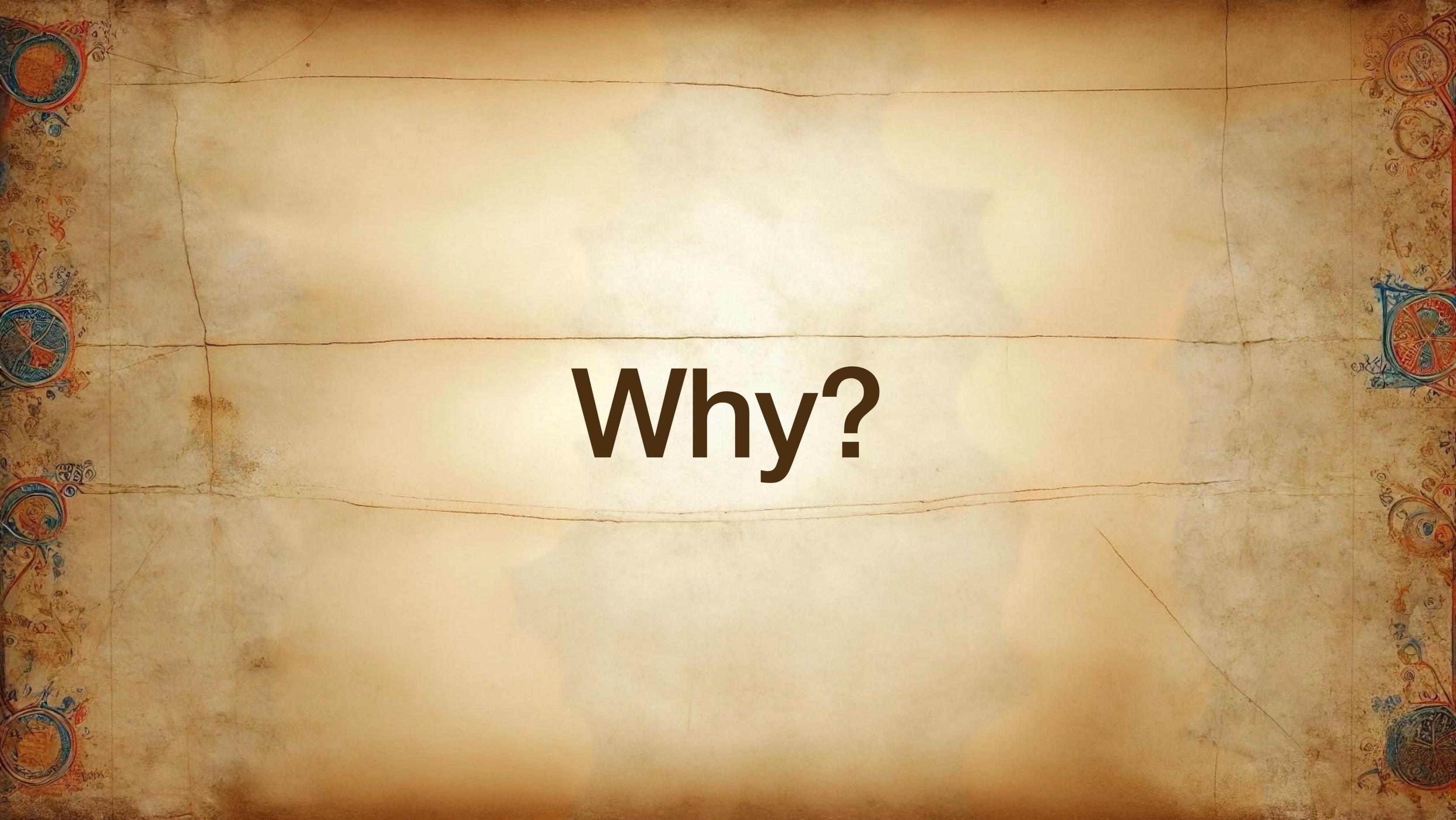
What is the
stuff it does?





**The weirdest
thing about
education**





Why?

Demand



Scarcity





Physics



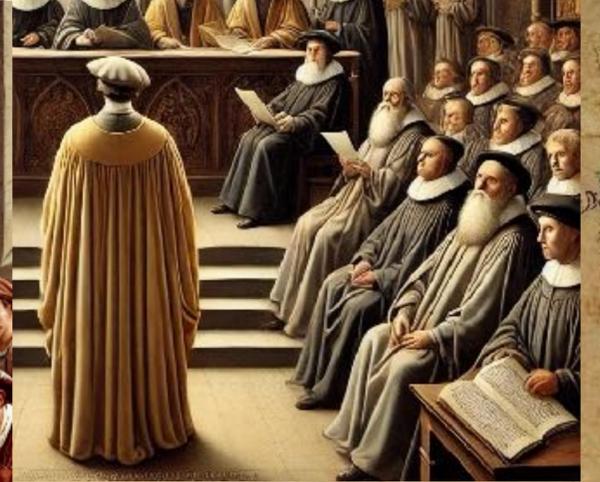
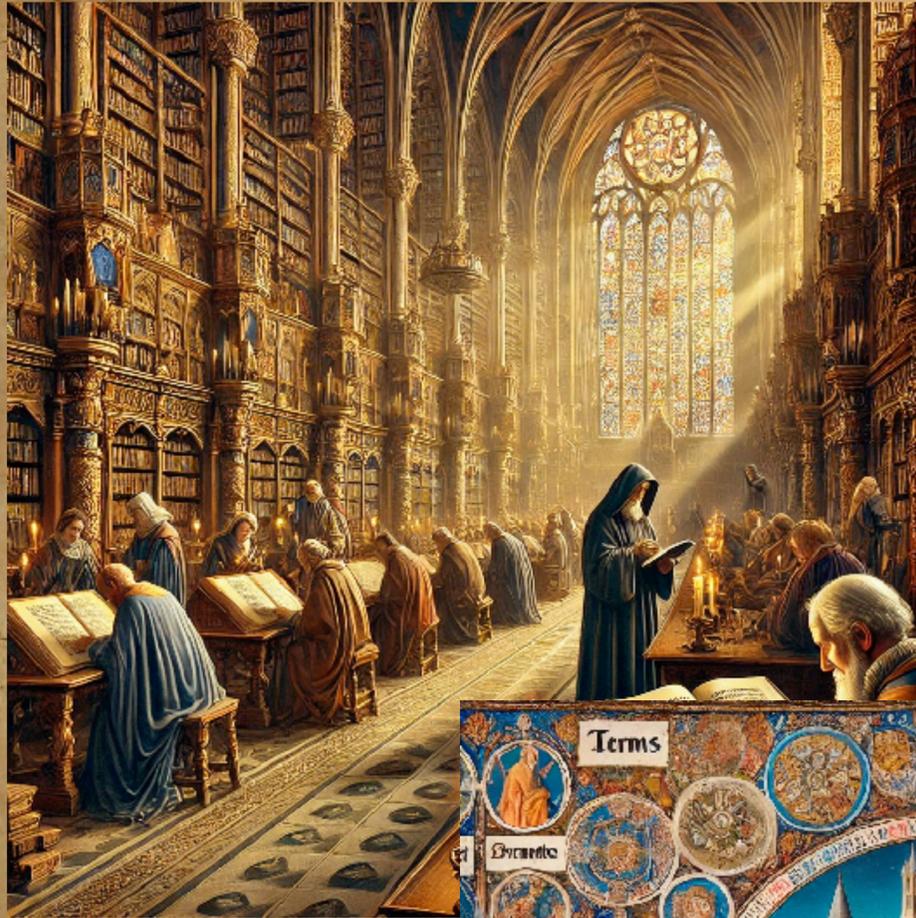


society and culture

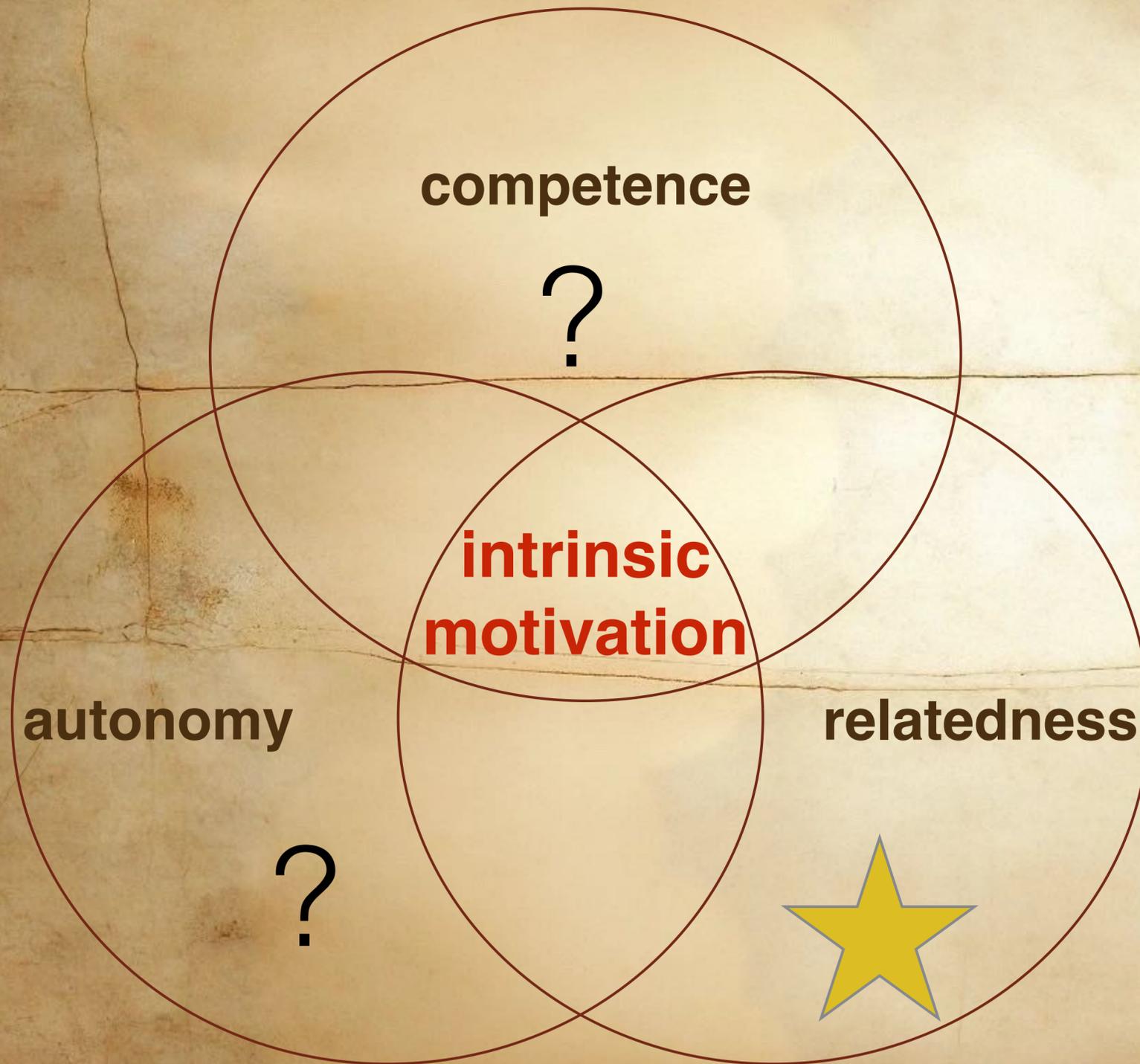
**A practical
solution
(given the
adjacent
possibles)**



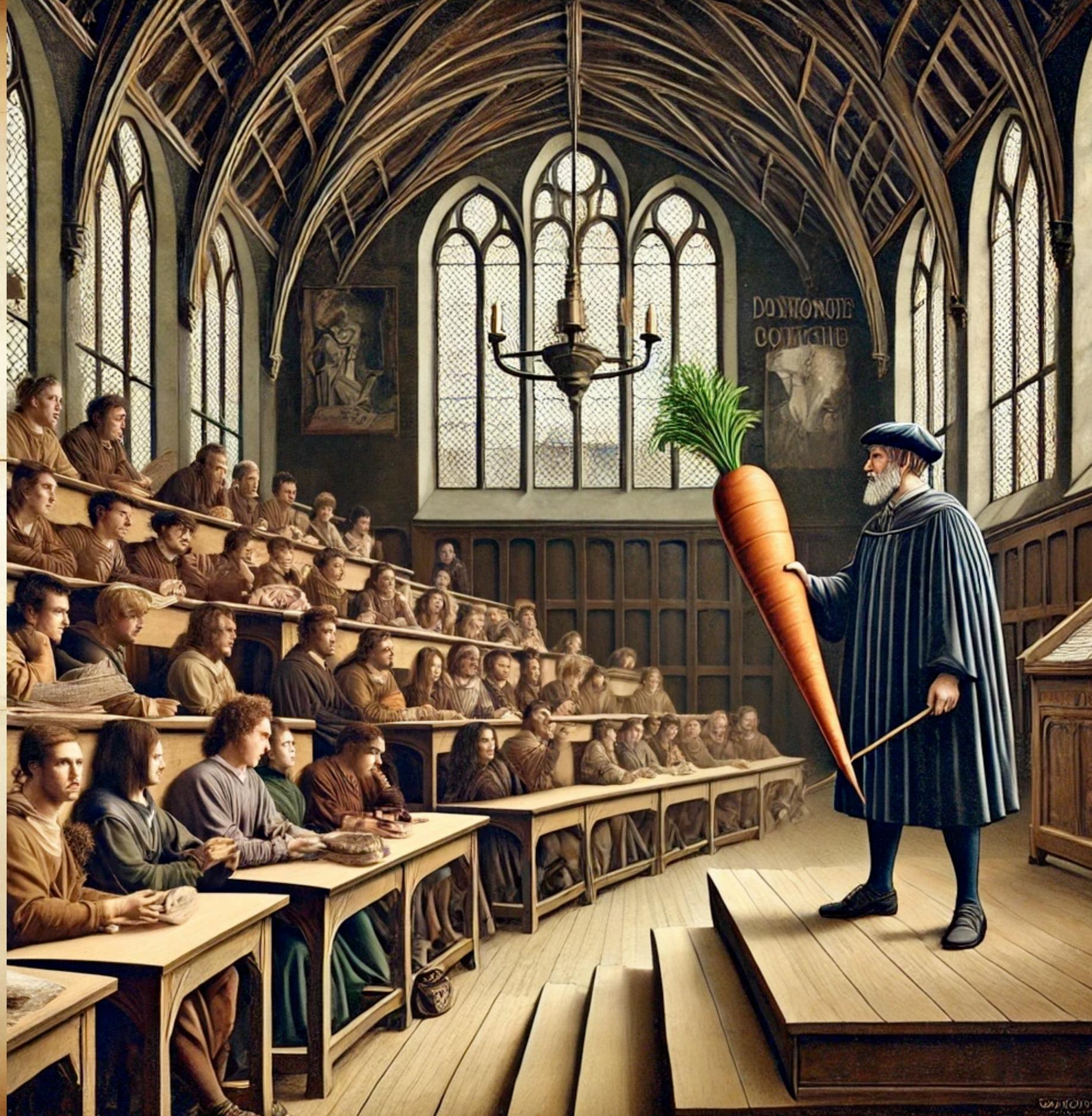
and so...



Classroom motivation



**Grades, punitive
schedules, fixed
pace,
boredom,
confusion,
disempowerment**



Counter technologies and adjacent possibilities to restore classroom motivation

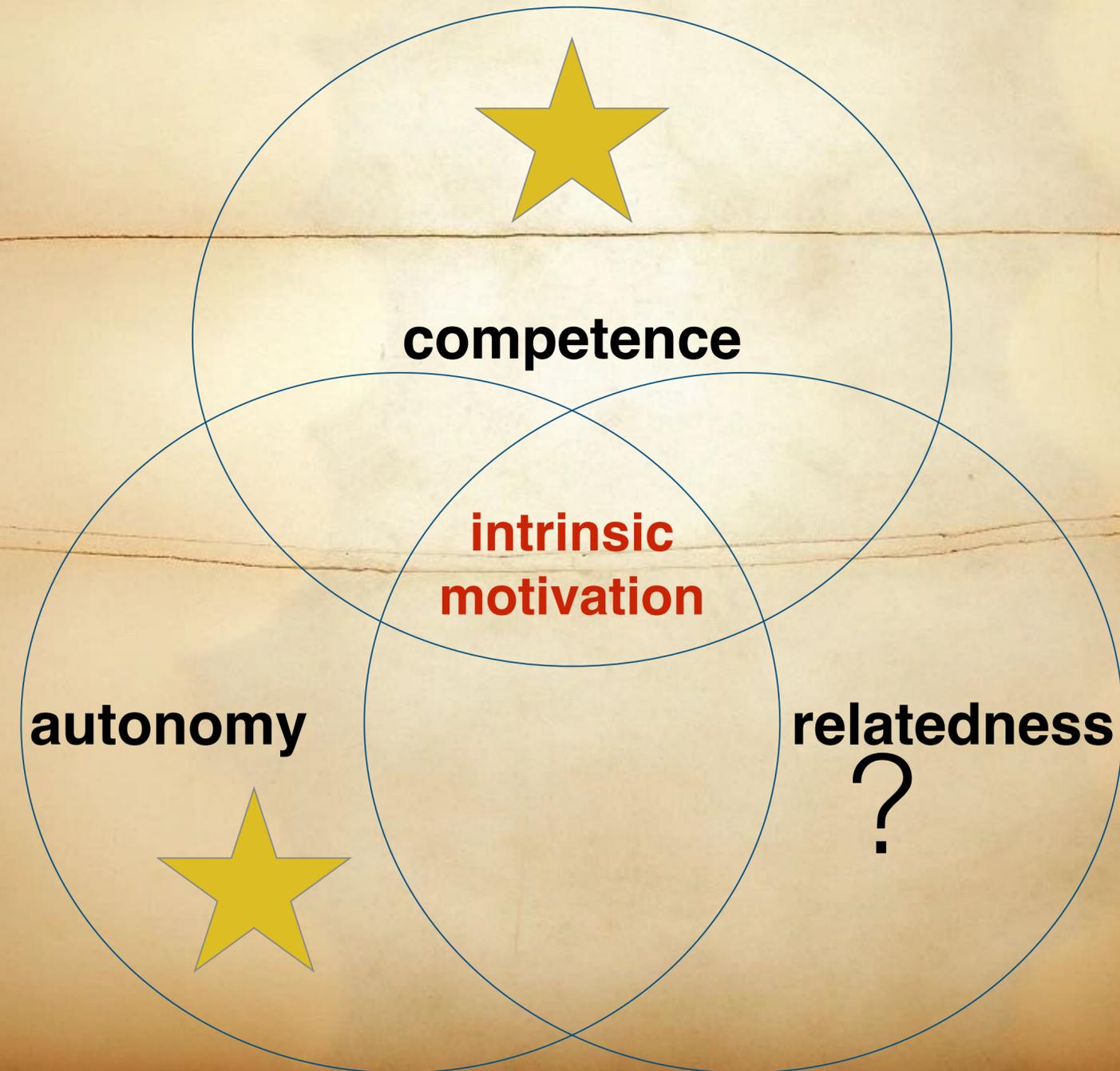
allow for different capabilities,
interests, approaches,
differences in pacing,
foster peer support,
make opportunities for
feedback, **etc**



give
learners
autonomy,
support personal
goals, show
personal relevance,
incorporate existing skills, **etc**

let teachers show they
care, help students to
support one another,
work together, see
relevance
to their communities, **etc**

Online motivation



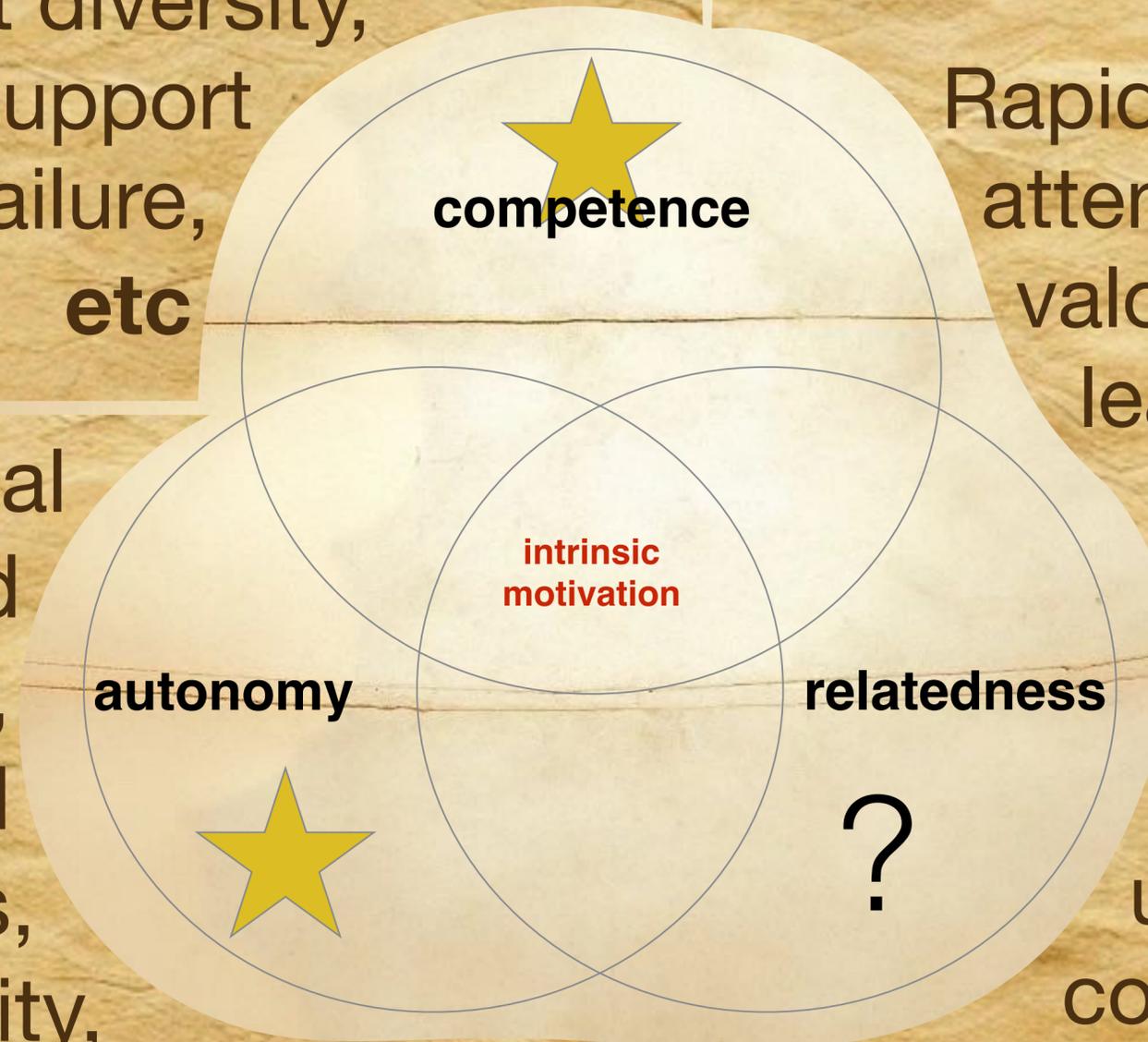
So,
why?



Online motivation: adjacent possibilities and counter technologies

Give choices, support diversity, curate-don't-dictate, support self-pacing, valorize failure, **etc**

integrate personal interests and environments, student-defined outcomes and goals, respect diversity, multiple paths to success, open timelines, **etc**



Rapid responses, giving (time, attention, praise, responsibility), valorize sharing, visible learning, modelling engagement, shared activities, online discussions, trust building, personal profiles, use the place and communities students already belong to, **etc**

Should we
just start
again?





**there is no
science of
teaching**



HOW GERTRUDE
TEACHES HER CHILDREN

In Attempt to Help Mothers to Teach their own Children

AND

AN ACCOUNT OF THE METHOD

A Report to the Society of the Friends of Education, Burgdorf

BY

JOHANN HEINRICH PESTALOZZI

(This is essential. I believe it is not possible for common popular instruction to advance a step, so long as formulas of instruction are not found which make the teacher, at least in the elementary stages of knowledge, merely the mechanical tool of a method, the result of which springs from the nature of the formulas and not from the skill of the man who uses it. I assert definitely, that a school-book is only good when an uninstructed schoolmaster can use it at need, [almost as well as an instructed and talented one.] It must essentially be

(This is essential. I believe it is not possible for common popular instruction to advance a step, so long as formulas of instruction are not found which make the teacher, at least in the elementary stages of knowledge, merely the mechanical tool of a method, the result of which springs from the nature

merely the mechanical

as an

tool of a method

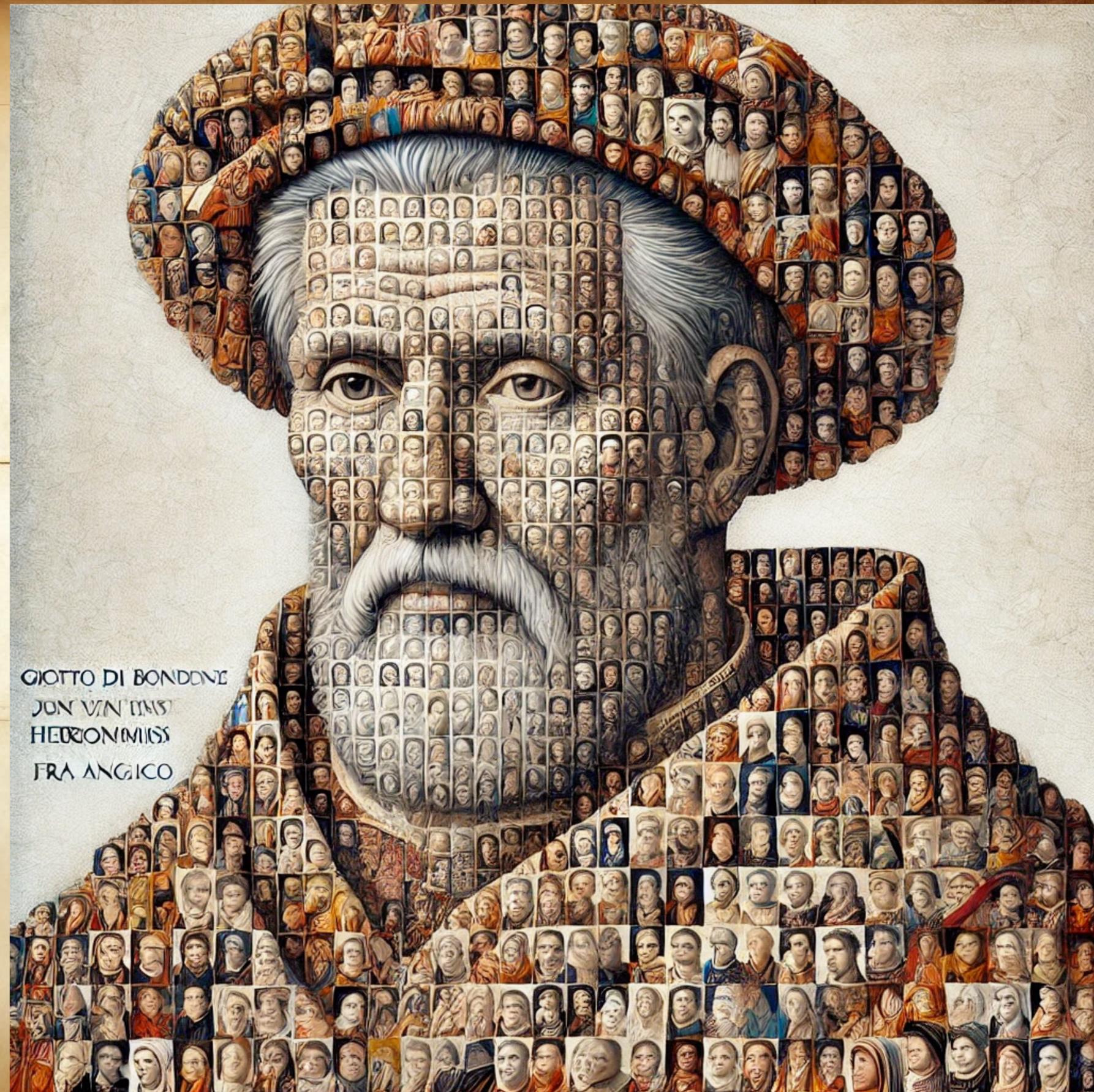
tially be

The McNamara Fallacy



https://en.wikipedia.org/wiki/Robert_McNamara

Generative AI



GIOTTO DI BONDONE
JON VAN TINS
HEERONIMISS
FRA ANGICO



the tacit curriculum



What kinds of technologies do we want to be?



**Harvest, don't
measure outcomes**
Make learning visible
Valorize diversity
**Personal, not
personalized**
Make caring visible
**Feedback and
support, not grades**
Make learning safe
Build connection





Passion

**for learning, for teaching,
for the subject**

Compassion

for learners

Skill and talent

**in all the technologies
that matter (pedagogy,
tech, content,
organization,
performance, etc)**

Understanding

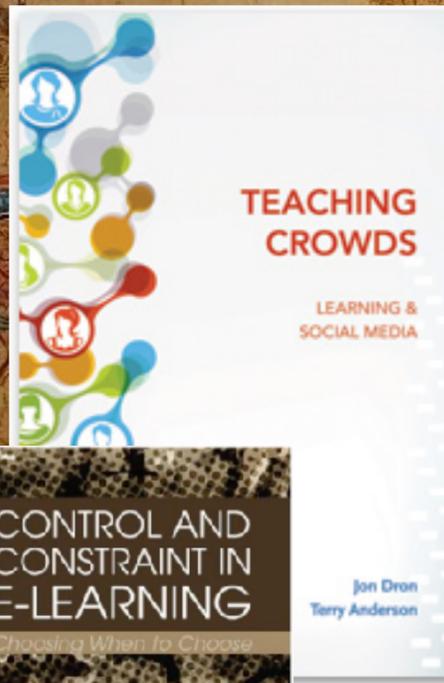
**of the whole (especially
how learners are
learning)**

Free to
read,
inexpensive
to buy!

How Education Works

Teaching,
Technology,
and Technique

Jon Dron



CONTROL AND
CONSTRAINT IN
E-LEARNING

Choosing When to Choose

Jon Dron
Terry Anderson

JON DRON

<https://howeducationworks.ca>

Thank you

✉ jond@athabascau.ca

🌐 <https://jondron.ca/>

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

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

