

# The Industrial Revolution transformed Higher Education

*From Plato's Academy (and Bologna, Sorbonne et al) to "Vocational" institutions*

- Demand by military, civil service, industry in 18<sup>th</sup> century
- "Engineering" higher education replacing apprenticeships
- Ecole National des Ponts et Chaussees (1747) Still operating !
- Ecole Polytechnique (1794). The prototype!
- Proliferation in Europe and the US in early 19<sup>th</sup> century
- TU Wien: Royal and Imperial Polytechnic Institute (1815)
- After circa 1850: Civil, Mechanical, Mining, Electrical, Chemical....
- And then Aeronautical, Nuclear, Computer.....
- Plato's Academy descendants merge with the Polytechnique ones

# The Digital Revolution : Not really..yet!

## *The role of Universities in the age of AI (and platforms!)*

Research, Teaching, Services (for Society!)

Knowledge Creation, Dissemination, Application

Research already curtailed

Major Universities restrict AI research goals (MIT, Cornell...)

No building and training LLMs from scratch (lack of resources).

Self-restriction to Applications Research .

This is not without precedent but “resources gap” is huge and growing

A first response : Attempts to “federate”

Empire AI Consortium (Columbia, Cornell, RPI, NYU, Cuny, Suny..)

Launched October 11 2024 with \$400 M (NY State and Simons Foundation)

Race for talent: Universities are losing.

Acceptances of “dual” appointments as least bad solution proliferate.

# The Big Tech Control of Academic research: Data and funding

- “Charitable” donations to Universities ramping up
- In return seats in Advisory Boards reserved for donors
- Direct funding of research projects
- 60% of tenure track professors at Berkeley, MIT and Stanford received Big Tech funding for research on AI, Social Media, disinformation
- 100% of academic researchers rely on Big tech providing data for studying disinformation, polarization etc.
- L. Lessig: The number of academics that receive funding from Meta alone is extraordinary (Academic Integrity Project)

# Integrity Issues

- The Case of the 2023 SCIENCE study
- 30 authors (Princeton, Stanford, CMU...Menlo Park). Meta funded.
- Nick Clegg : “No detectable impact of Meta algorithms on polarization”
- Later research: During study, algorithms were ...”tinkered with”
- Big Tobacco 1950-1990: No explicit manipulation of research but manufacturing doubt (“No definite proof linking smoking with diseases”)
- The case of Joan Donovan (Harvard Kennedy School)
- The case of.....

## More issues:

- Platforms ingrain themselves into the fabric of educational institutions in Global South
- Massive amounts of data/metadata flows to platforms
- Young “consumers” locked in for lifetime
- West gets much better deal (SURF in Netherlands)
- Further down the road: Big Tech owned vocational schools?
- Will the Poytechnique descendants survive ?
- Will they be (re) separated from the Plato Academy descendants?