

DecidimFEST
2023

Artificial Collective Intelligence & Democracy through Decidim

*What is that thing called **Artificial Collective Intelligence**
and how it will affect **Democracy through Decidim***

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Two ways of talking about religion

- Theologians, believers:
Transhumanists (e.g. Elon Musk)



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→ Sociologists, philosophers, activists:
(post)Humanists (e.g. Timnit Gebru)



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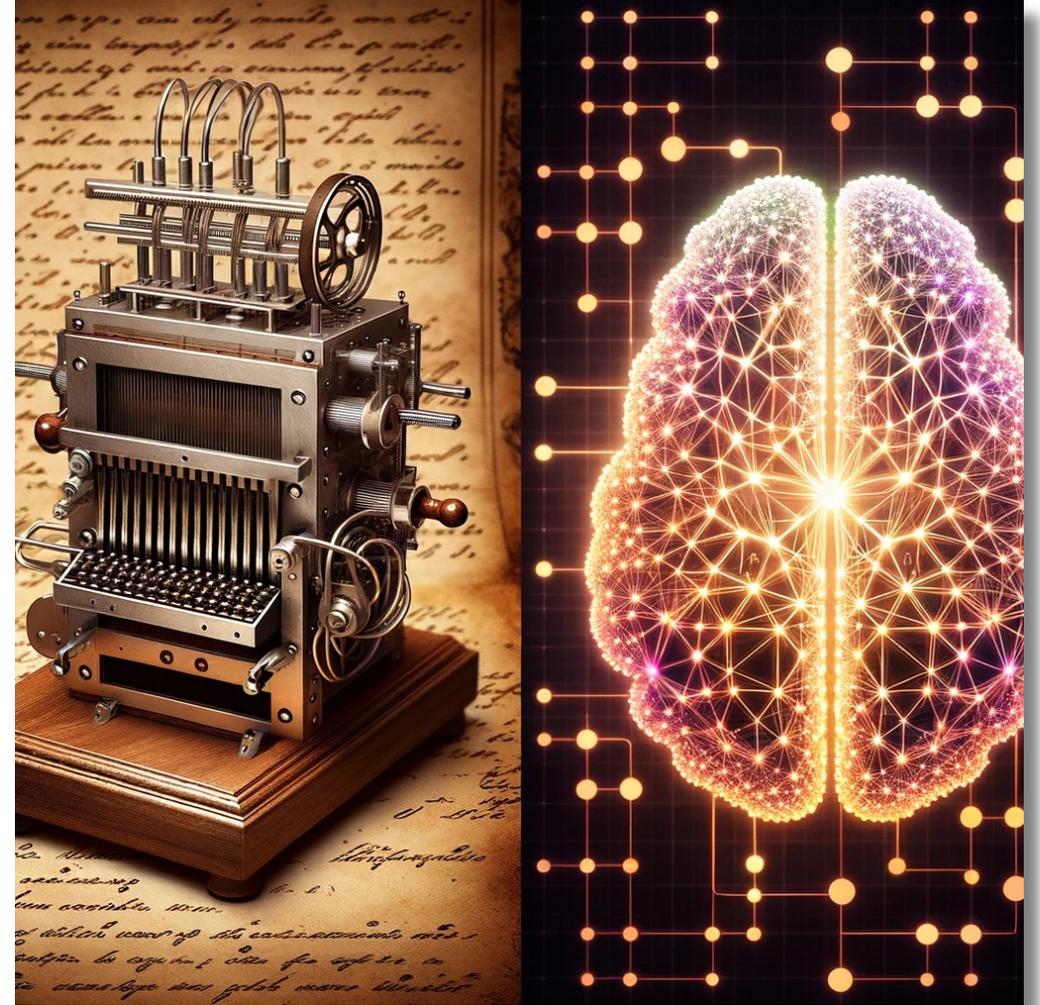
Structure and goals of the talk

- What is AI and how LLM-Transformers work.
- All (human) intelligence is artificial and collective
- “Artificial Intelligence” is a form of Collective Intelligence
- Yet, we are creating new Gods and pseudo-religious regimes and we need to understand that the new AI-gods are ~~dead~~ not alive.
- Nothing in this AI revolution is really that new in human history and there is much to learn from the past
- Within this framework we have a number of exciting opportunities with Decidim

What is AI and how do LLM-Transformers work

What is AI?

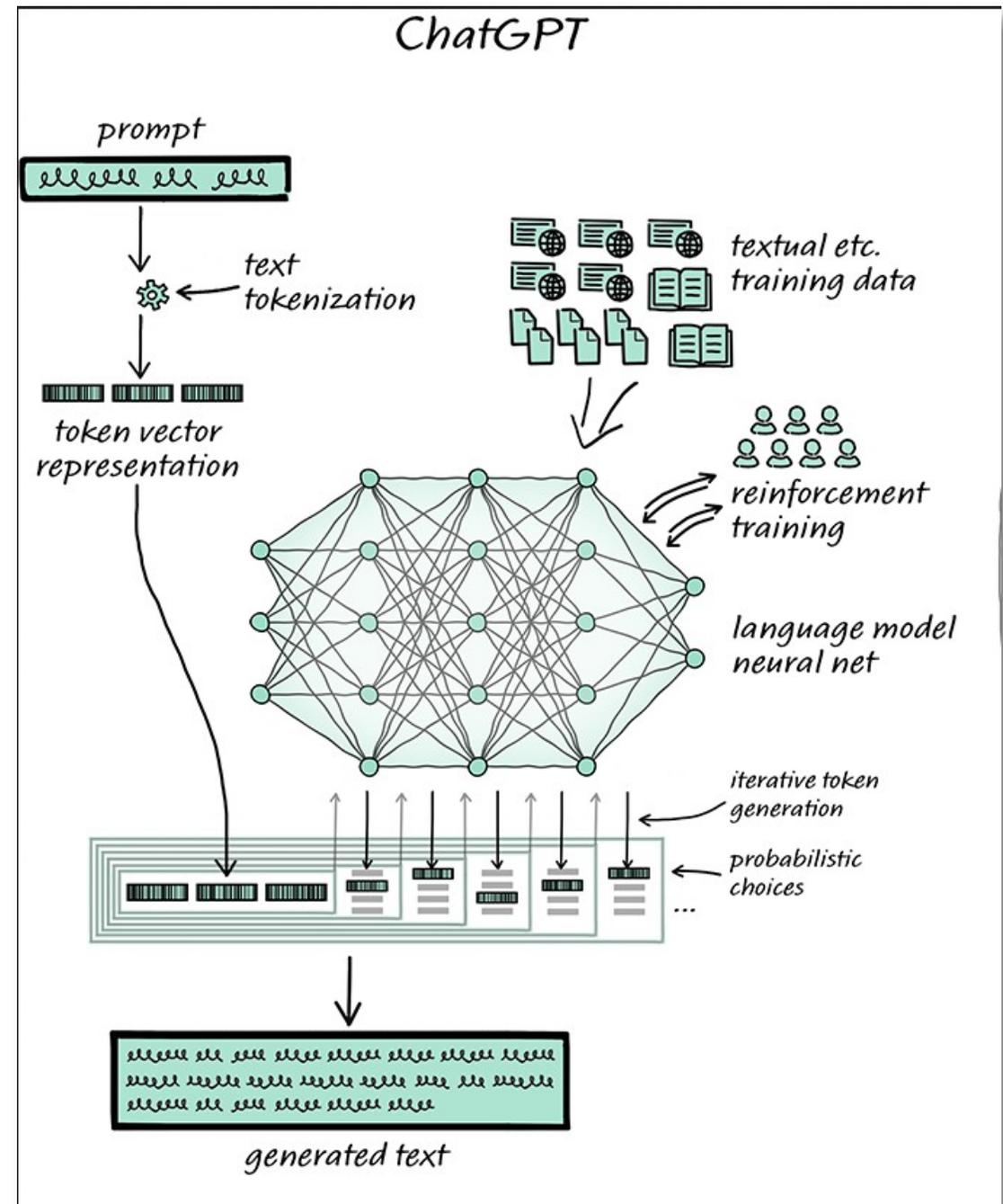
- Alan Turing: concept of computation and Universal Turing Machines and Intelligent Machines (IBM)
- AI coined in Dartmouth conference in 1954
- Two strands: Symbolic and Subsymbolic
- Current Neural Networks, machine learning, deep learning
- Large Language Models with Transformer architectures
- How GPT works



How GPT works

→ Functioning

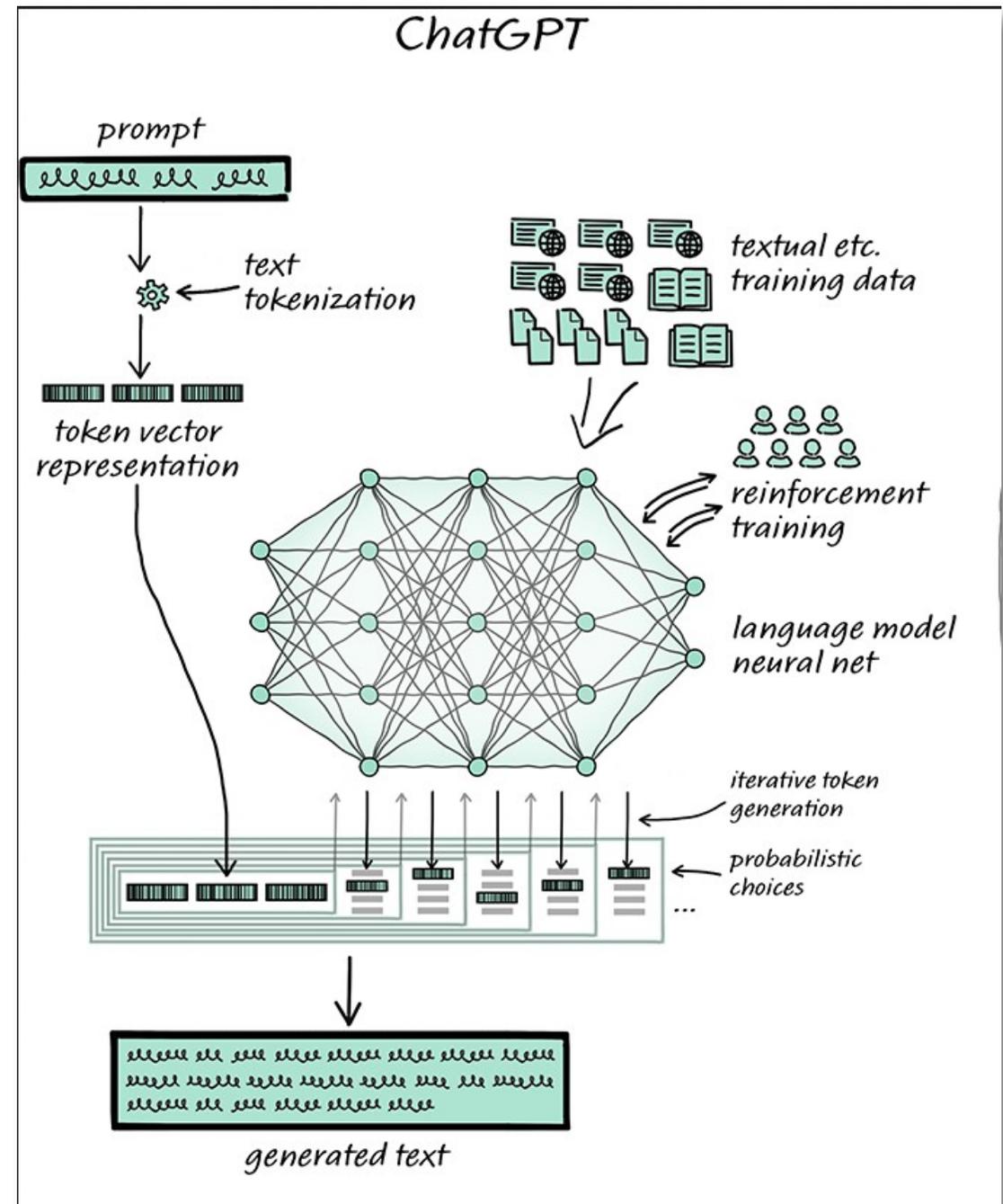
1. A input text is provided (prompt)
 2. Converted to tokens
 3. It turns into numbers
 4. It is embedded in multidimensional and relational “semantic” space.
 5. It is processed in several layers of neural networks
 6. Predict what the most likely next token would be
 7. Add the new token to the previous text string and ... return to 1
- Hi how ...
 - Hello how are you? ...
 - Hello how are you? Good, ...



How GPT works

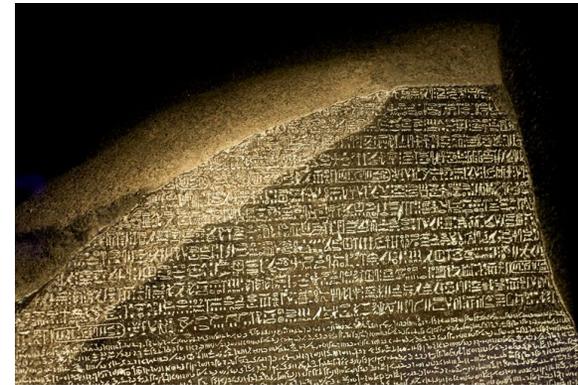
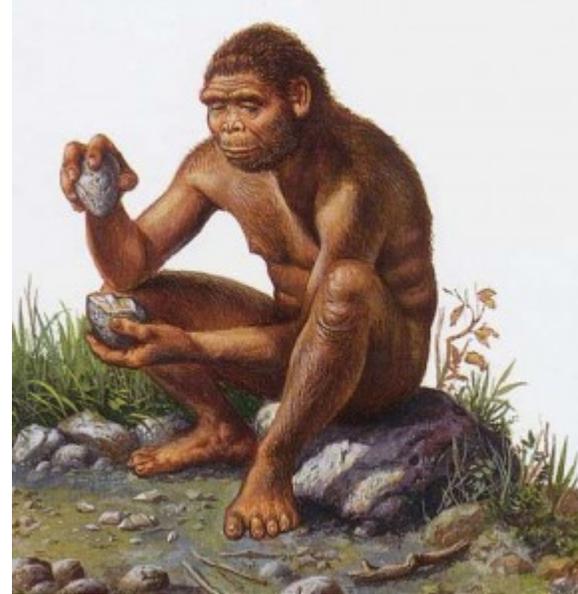
→ Training

- **Corpus:** Thousands of digitalized texts
~200 Billion words
- **Tokenization and embedding:** The semantic embedded space is constructed by statistical proximity
- **Attention:** Layers of attention are trained, what is important in a chain of tokens, which relations among tokens are critical?
- **Generator model:** 10^{14} parameter network The generation layers are trained by correcting against the next word of the text that has been given
- **RLHF (Reinforcement Learning with Human Feedback):** When all the texts have been processed, some humans interact with GPT and punish or reinforce him for the “good” or “bad” answers he has given
 - e.g. ethical safety rails.



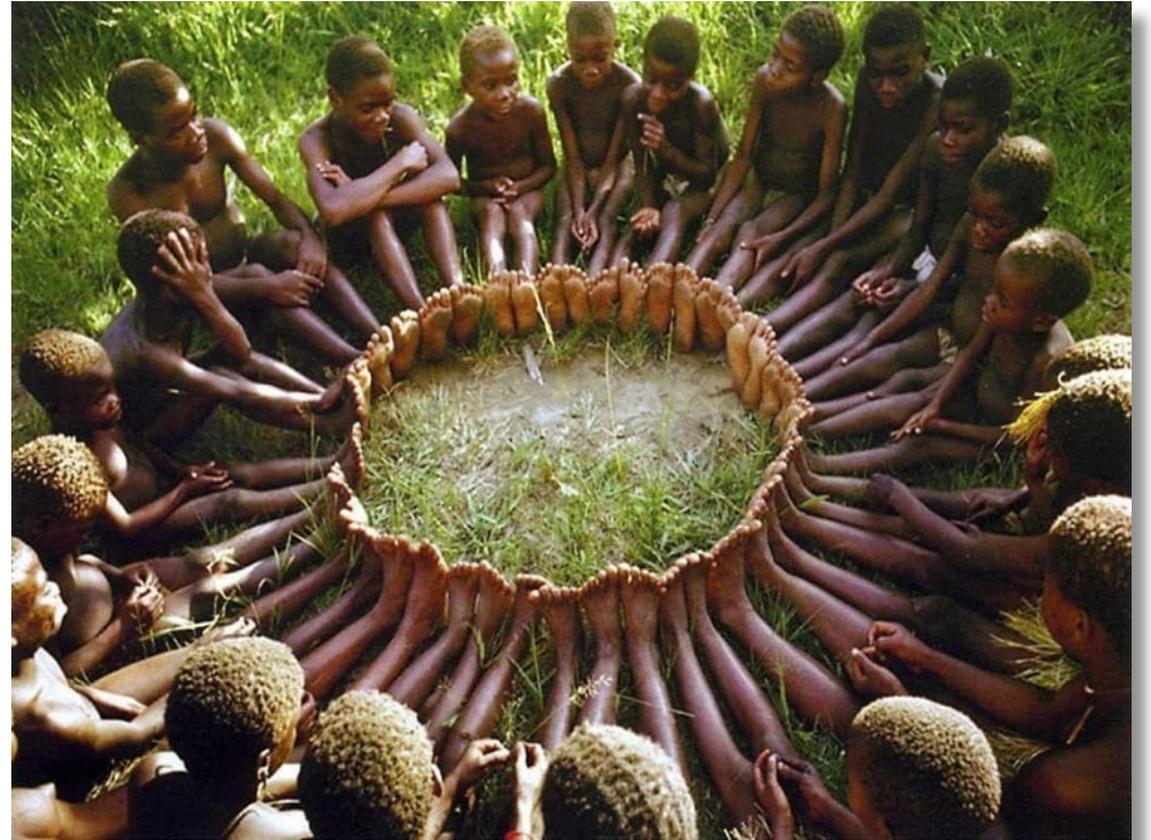
Human Intelligence is Artificial

- **Silex** Innovation drove **Cortex** Evolution
 - ◆ Leroi-Gourhan
- Human intelligence arose as a result of **tool use**, including **language**
- **Writing** became a major boost, equivalent to the rise of AI today
- Etymology of intelligence:
Intelligence = *Inter* – *llegere*, to read in between, **to read among**



AI is Collective Intelligence (at least at four levels)

1. **Mathematical resources**
2. **Corpus:** Original training data comes from all human written books and text that has been digitalized
3. Cheap outsourced **human labor** to clean data, classify, etc.
4. **RLHF:** Additional Human reinforcement learning of LLM and user-provided feedback
5. **BONUS: Energy, water, minerals and infrastructures** that are run by human intelligence, and the living Earth



The New Gods

Feuerbach and Durkheim on the old (dead) Gods

→ Feuerbach:

- ♦ "Man first unconsciously and involuntarily creates God in his own image, and after this God consciously and voluntarily creates man in his own image" (The Essence of Christianity, 1841).

→ Durkheim:

- ♦ Religion is not mere superstition but a condensation of human beliefs, norms and knowledge in symbols like Gods (The Elementary Forms of the Religious Life, 1912).



The New Gods

- Like the Gods,
 - ◆ AIs live in the cloud
- Old civilizations acquiring gods to align citizens with them
 - ◆ Big corporations have acquired AI companies
- Human-made gods at their image: AI feeds on human data
- Gods made humans at their image: AI makes humans fit their dataism



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TOP 5 PUBLICLY TRADED COMPANIES (BY MARKET CAP)

 Tech  Other

2013
Q1



\$416B



\$404B



\$257B



\$255B



\$246B

2018
Q1



\$851B



\$717B



\$703B



\$701B



\$508B

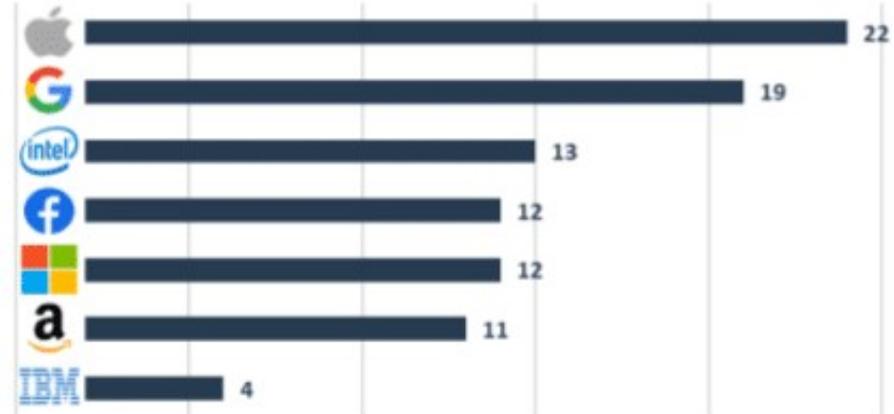
The number of AI-related M&A deals has boomed in the last five years

The number of AI-related M&A deals has increased from less than 100 deals in 2016 to 500 in 2019



The US tech giants have led the way

Number of AI acquisitions by select Big Tech companies, 2011-2020



Source: GlobalData.

Note: Numbers for 2020 are up until 1 October 2020. All figures are based on the announcement date of the deal. The number of M&A deals includes all deals within the subsets of AI, for example, machine learning, computer vision, AI chips, and conversational platforms.

The New Gods

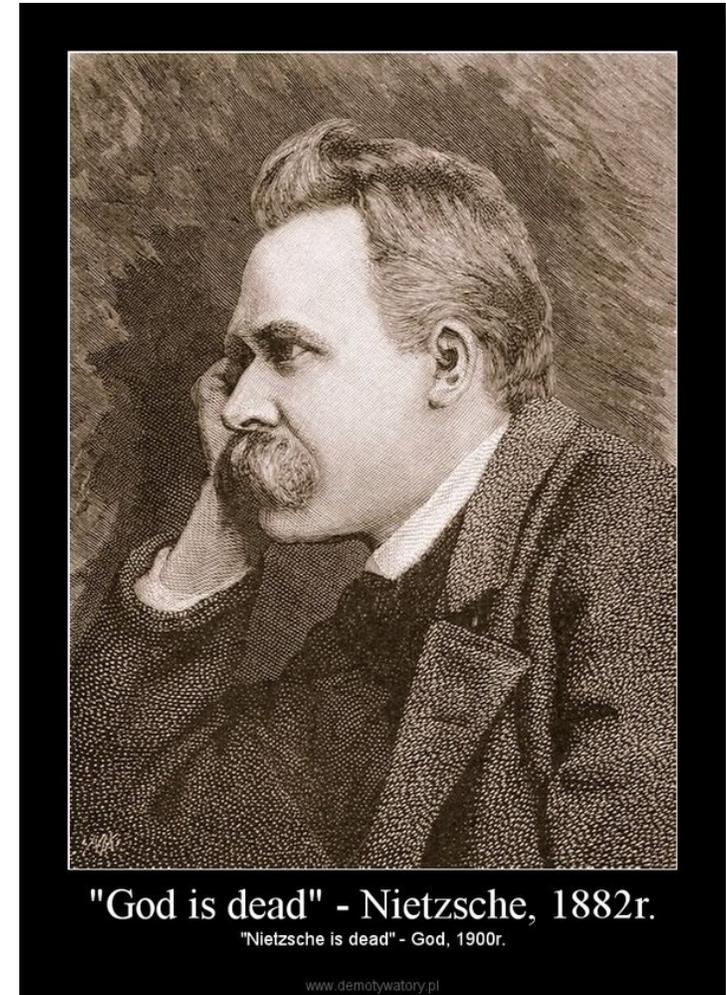
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Gods ~~are~~ were dead
but
AI is not Alife

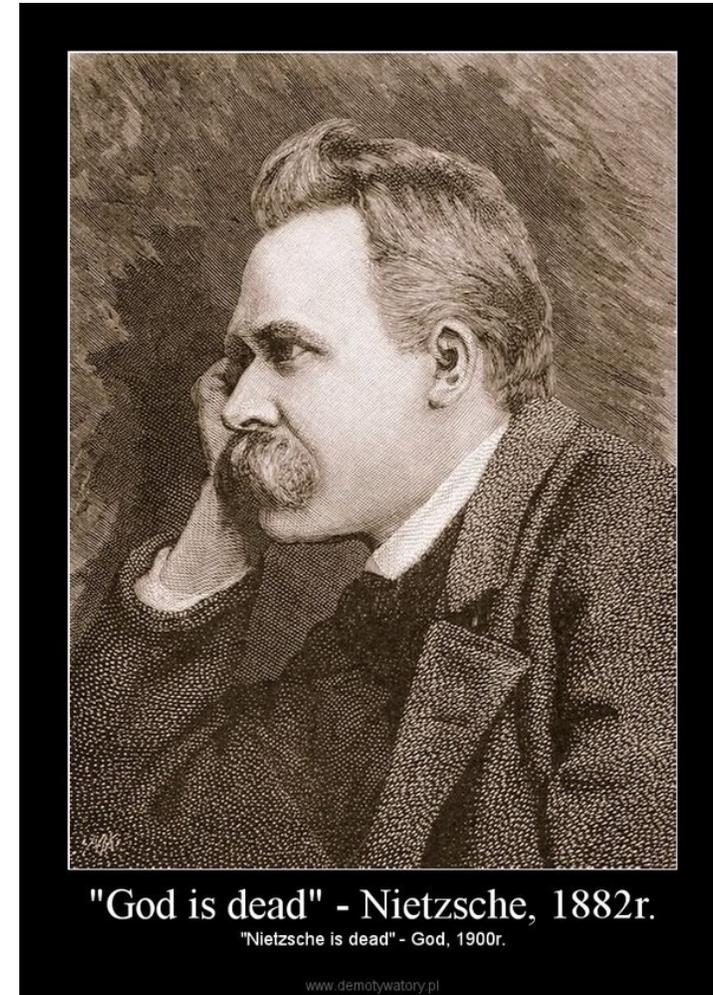
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- It is now our task to declare that “AI is not alive”



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→ The machine that runs AI



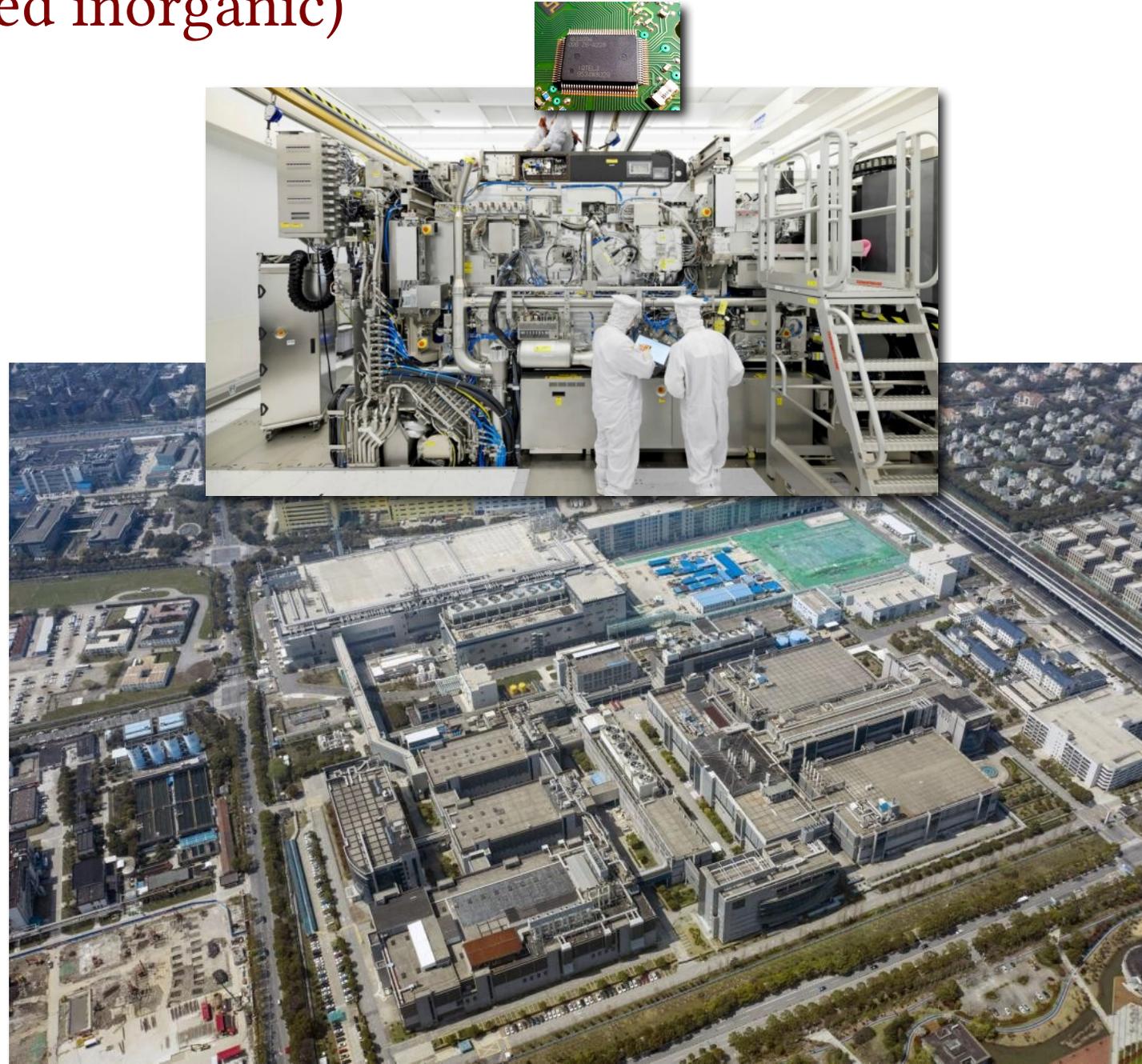
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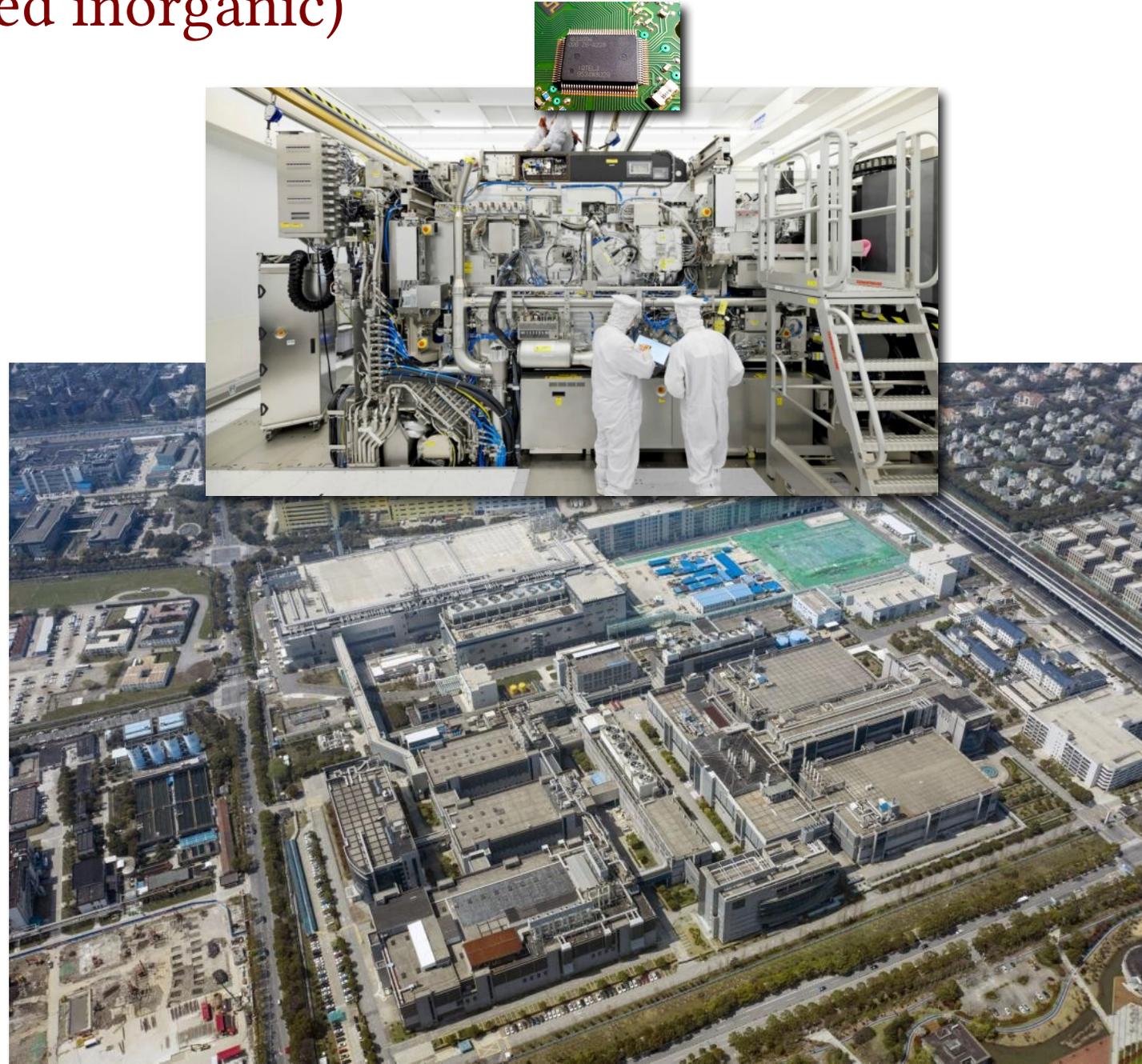
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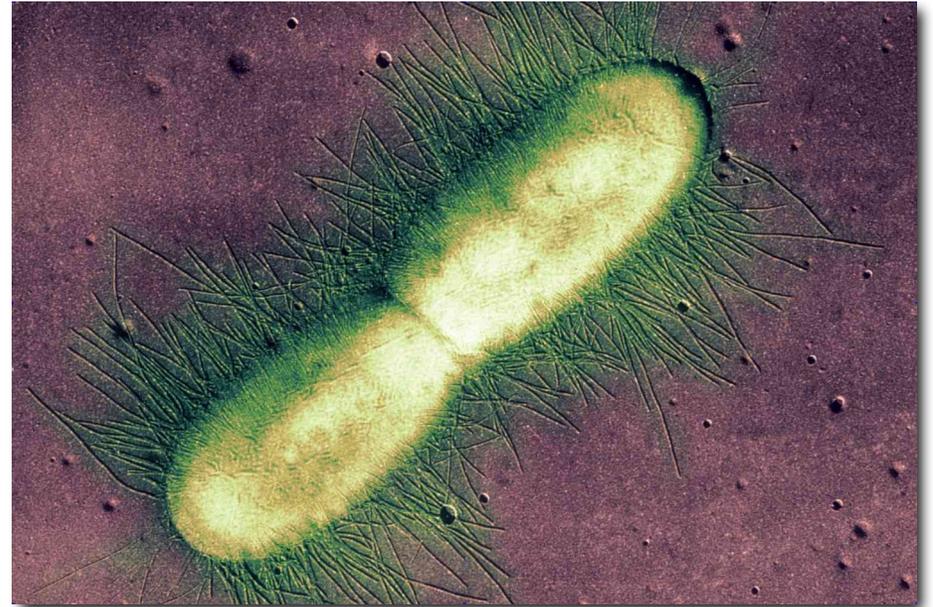
AI is not alive (is the organized inorganic)

- The machine that makes the machine that makes the machine that runs AI?



AI is not alive (is the organized inorganic)

- And here is life.
- Here is the machine that makes the machine that makes the machine that makes the machine that runs LIFE



AI is not alive (is the organized inorganic)

- Philosophers have long declared that “God is dead”
- It is now our task to declare that “AI is not alive”



AI is not alive (is the organized inorganic)

→ The new Gods (AI) are not alive ...

AI is not alive (is the organized inorganic)

- The new Gods (AI) are not alive ...
but they are very **undead!**



HowTo be democratic in times of Gods

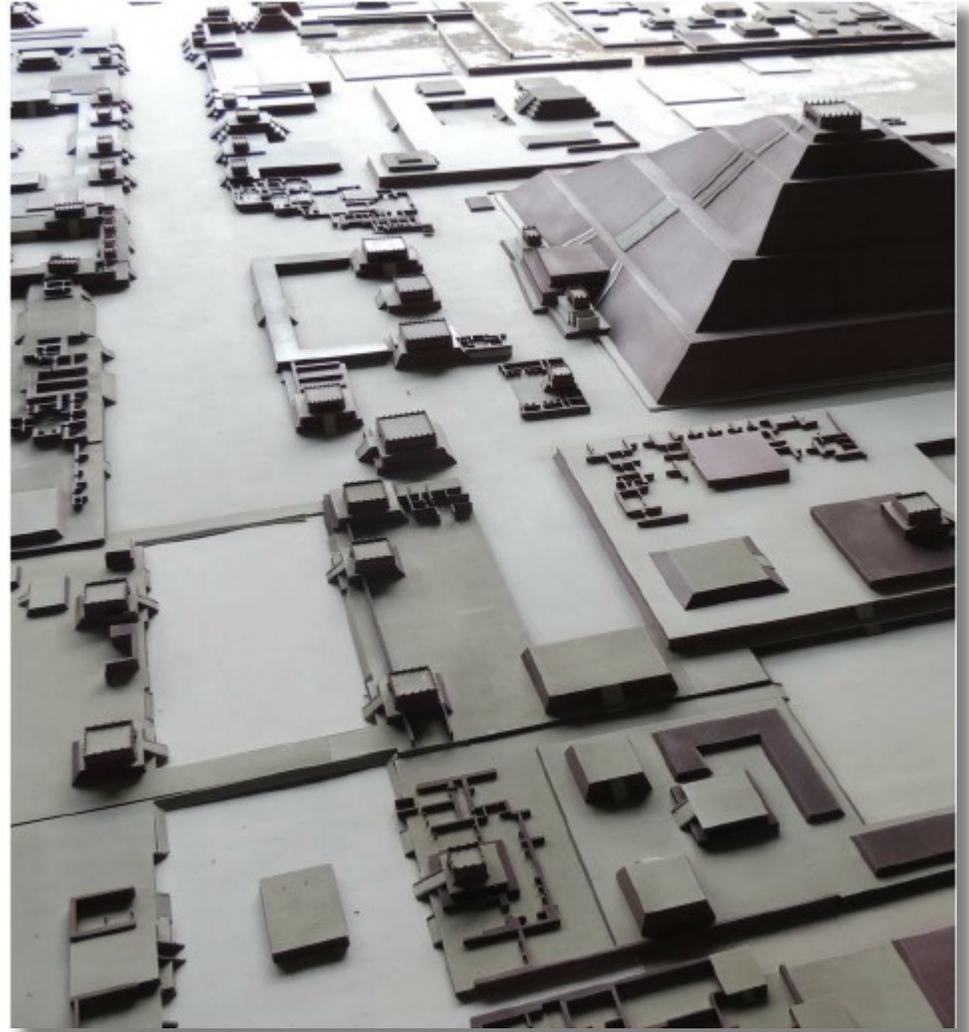
How to be democratic in times of Gods

- *Animism*: mini-gods (spirits), doing little jobs everywhere
 - ◆ Small AI assistants running locally, or simply programs, no AI at all (scripts, daemons, etc.)
- Dissociate religion from power and fractalize cult: *Teotihuacan*
 - ◆ Brake with big corporations and create public general purpose AI and local specialized AI services



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- Polytheism in *Athens*: multiple gods, selected by the Assembly
 - ♦ Democratically choose multiple AI services to operate in society with no monopoly
 - ♦ Open source myth rewriting and collective chorus
- *Anabaptism*: a result of “open-sourcing” the Bible, people taken over, appropriating god and self-managing their own religion
 - ♦ Open-source community managed AI systems



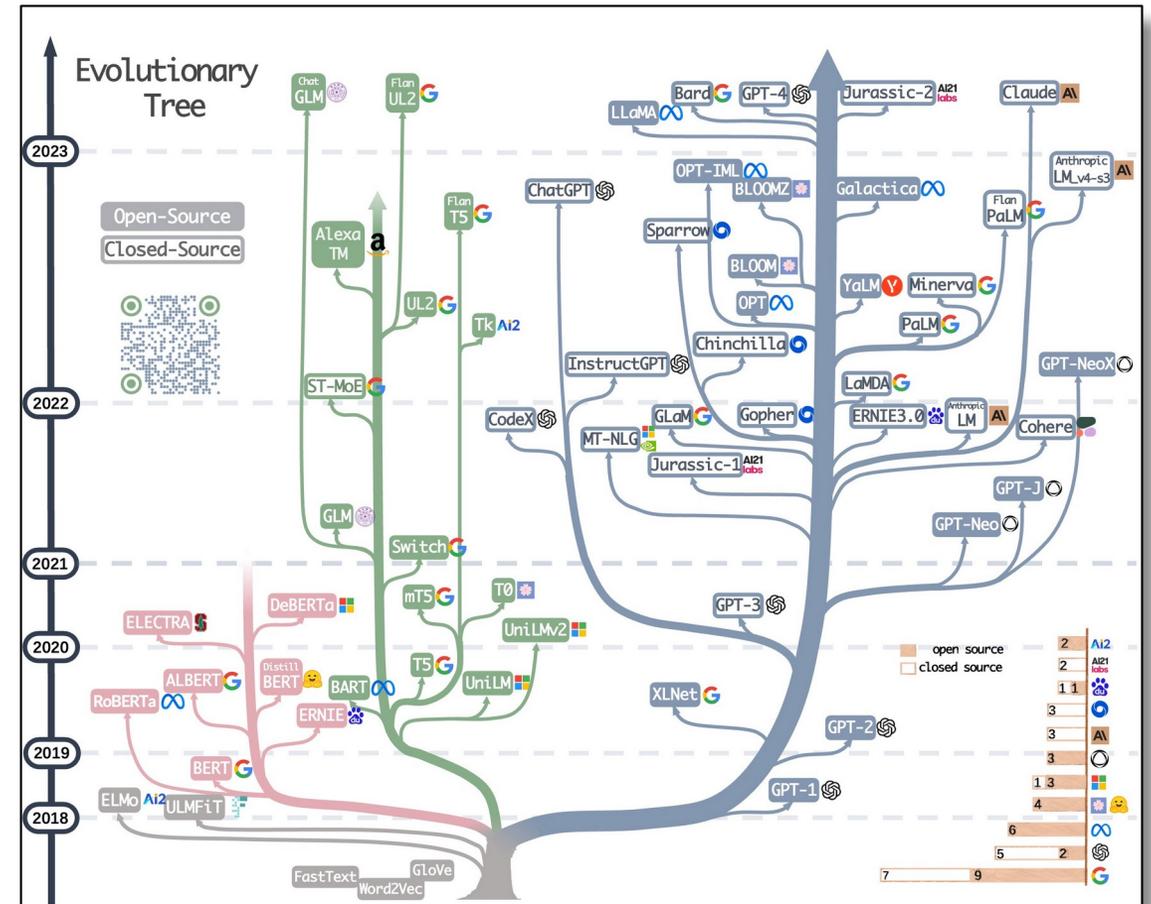
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AI and Decidim

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- *AI as assistant*
 - ♦ In programming
 - ♦ In configuring participatory spaces
 - ♦ In facilitating participatory spaces
 - ♦ In writing proposals, lawyer, etc.
- *AI as interface*
 - ♦ Biggest change to computer interfaces ever: intention based interface instead of action based



AI and Decidim

- AI as *participatory automata*
 - ♦ **Risks:** participatory flood of automata
New authentication methods in registration
 - ♦ **Opportunities:** delegates, represent the non-human, etc.
- AI, *alignement* and regulation
 - ♦ Decidim to regulate AI
 - ♦ Decidim to steer and align AI



AI and Decidim

→ Beyond AI: ALife

- ♦ Digital permaculture and complex systems
- ♦ Artificial Democratic Life
- ♦ Inspiration from life itself, not only from human (instrumental) intelligence: sustainability, collaboration, symbiosis, recombination, evolution, reproduction, care...



The BIG DISSOCIATION

Psychic dissociation



The BIG DISSOCIATION



The BIG DISSOCIATION



We should NOT overthink AI

We should NOT overthink AI

We should embody Collective Intelligence

Thank you!