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[Understanding LLMs: Computer techs as Psycho-Technologies of Cognition] 🧵☐

I find that most of the critiques of genAI/LLMs, even from high level intellectuals, miss the crucial point: they focus on what is intelligible for them (linear and localized symbolic computation)

but this is Parallel Distributed Processing (PDP), which is completely different.

(cf. 👇

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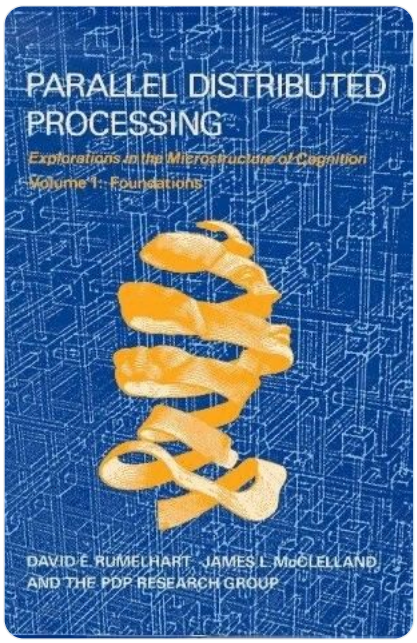

They think that our conception of life is in danger, and that's right on the long term, but the real pressing issue is techno and so noopolitical: the try to reiterate the global shifting of the world's mind already done with the computers,

while nobody seems to have realized yet what has really surreptitiously (because its an insidious very slow process) happened to our *minds* in that period (the "informational/computational revolution").

Technique is a major blind spot in science and most people don't understand the core of these simulations, as they don't understand the psychotechnological nature of automatic computing machines ("computers") in general.

They think that because they use (to use) them or because they can exhibit very complex mathematical representations of "computation" (based on Church recursive Lambda calculus) they understand them, but that's wrong.

Only a practical phenomenological approach cut the chase and reveal their interactive and conditioning nature on our minds which is both enabling and constraining ("pharmakologic") as any technologies: they are not enhancing but *shifting* machines.

While the marketing put the accent on the enabling dimension, this also goes on another hand with a lost: the lost of the knowing-how/savoir-faire which is automatized in the machine, only visible on the long term social usage.

This is the heart of the proletarianization, and today cognitarianization of these technologies of cognition (Computing "sciences" and AI) leading to an increasing dependance on the socio-technical realm

and generating an increasing techno-induced abstractive noologic and representational environment, motor of an infinite economical "growth": to the (fake) stars!

The fact that some cultivated people today believe that we can "download" our mind in machine (transhumanists) is just the expression of our current dangerous level of disembodiment induced by the "information age", but also by technoscience as an abstractive operational culture.

Abstraction leading to generalization and massification, "normalization". Computing machines are *implicit* techno-normalizing ones, technopolitical geostrategic tools.

So, if one want to understand more deeply the nature of the actual genAI disruption, here's some keys: First stop thinking them as "symbolic computation" which miss the point: they are an emergent level of abstraction enacting from this basis.

Computers are machine simulating machines (machine²) and LLMs are at this (pseudo) second-order level.

Secondly, LLMs are based on ANN models which are Parallel Distributed Processing. To understand their basic way of working there is two complementary ways: studying Linear Algebra (matrix representations and calculus), at least the basics,

and stop focalizing on their global "statistical" description which mask their inner (PD) dynamics (that's one reason I don't like the actual "predictive processing" views trend).

And as they simulate the analogical dimension (PD), their inner *emergent logics* can't be thought (only) intellectually: a practical/observational approach is also necessary to enact an intuitive understanding/know-how of their emergent dynamics.

It is the work I have done at the origin of my scybernethics approach, thirty years ago, understanding that their illusory power rely on the fact that they are powerful *models of the mind* (and of course not "intelligent machines").

By understanding them, as they are the next metaphor of the mind, one can get, analogically, valuable enacted and embodied intuitions about the functioning of our own mind and consciousness as distributed and parallel processing dynamics.

Of course these intuitions then need to be confronted critically with legal/classical scientific literature. This is basic scientific methodology.

And it was a long and difficult process (see for example my "Brain" mind map at), alone, moreover isolated and in a cultural environment where no one had the slightest idea of what I was doing.bra.in/5jrYdQ

But perhaps it was also an opportunity for me to feel free to think idiosyncratically and creatively, with others, but by force of circumstances at a distance.

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