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[Thinking of genAI (& Human Cognition) as "Statistical Predictive Processing" is Misleading] 🧵

I hear almost everyone say that a LLM "statistically predicts" the next element/word. This way of describing the functionality of these simulations is misleading.

It is an abstract mathematical way of explaining, which while speaking to educated people, takes away from the understanding of the real mechanisms at play, like all statistical explanations, drowning the part in the whole (behaviorism).

The parallel with the theories of "Predictive Processing" in cognitive sciences is obvious: the cultural ideological domination of a logic of socio-professional operationnality and of the optimizing control, in the great tradition of the first cybernetics. This is not bio-logic.

Thinking of these "GenAI" dynamics as parallel and distributed processes (PDP) is much more enlightening: these models fundamentally simulate, thanks to their immense speed and computing power, *analogical* phenomena (cf. Ising glass for example),

to the great damnation of classical and intellectual normative reason, reduced then to a simple materialized so called "computation".

(cf. scybernethics com-putation:)https://x.com/search?q=%40ki_cog%20com-putation&src=typed_query

They simulate biological *memories*, which we can understand as re-presentations, which are not localized (as in computing) but *distributed* and which evolve dynamically/temporally in a parallel, simultaneous, i.e. ana-logical way.

Their ability to simulate inferential reasoning, for an observer, comes from the recent addition of *recursive* modules (the "transformers") on this "memory" basis. This is the strength of LLMs and GenAI.

They can be understood as automations of automations, second-order automations (automation²): an attempt to empower machines from the semantic socio-historical system in which they are embedded. But without the observer-actor (Technology-by-itself fallacy), this makes no sense.

We are unable to think intellectually (in a localized and linear way) these PDP dynamics, and only practice accompanied by an epistemological culture allows, through an intuitive and heuristic approach, to access and make intelligible their ana-logical enactions.

These models and their simulations reveal to us ana-logically the parallel and distributed original dimension of our own embodied bio-logical cognition: parallel and distributed processing.

Of course, machines are not "conscious", they do not think, all this is a pure mechanical illusion very sophisticated, but if we study them and understand them, they can give us material to think (ourselves).

The real machine, the one that is most feared today in its capacity to mechanize us and to standardize/format us excessively, is the socio-professional machine and its obsession with productivity and optimization,

which will now be able to use these ubiquitous technologies to make us even more cognitively dependent on the "system". It's up to us to use them toward enhancing our knowledge (self, others, world) and creativity or toward enslaving us to the excessive liberal-capitalist logic.

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