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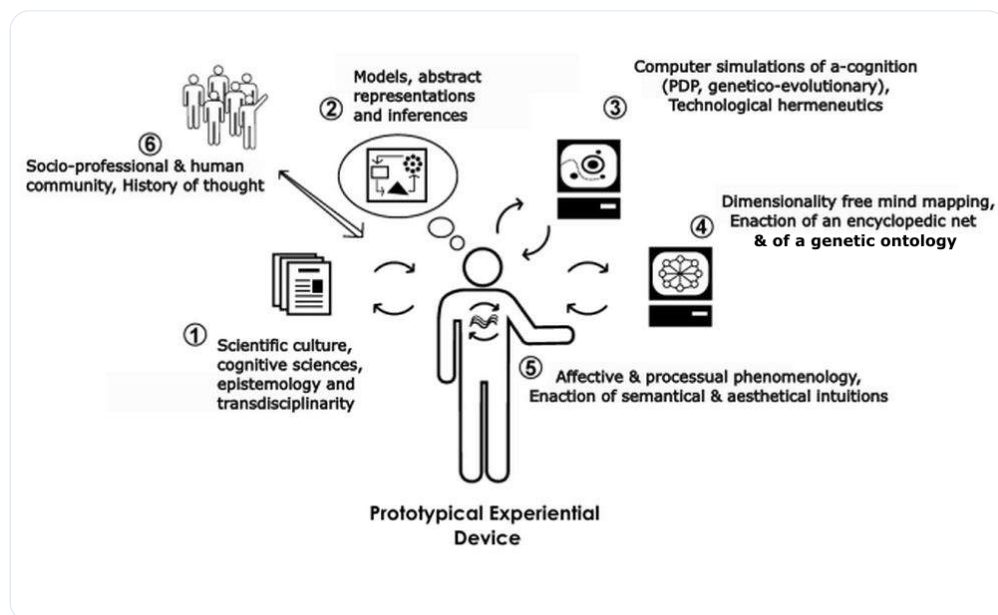
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[Modeling "without representation" & "without finality": a Scybernethics view] 🧵 □

Contrasting with Cartesianist and cognitivist 3P-Only representationalism, in the Scybernethics framework models are considered both as constrained artifacts toward explaining (E-models) but also

toward \*understanding\* (U-models), which is in the blind spot of the former. U-models can integrate and include E-models, not the otherwise because everything said is said by an observer-actor.

In this perspective modeling become an \*active epistemological practice\* also driven toward self-reflection because the model of the model and the model of the modeling point \*iteratively\* toward self-understanding (recursive process progressive integration/accommodation).

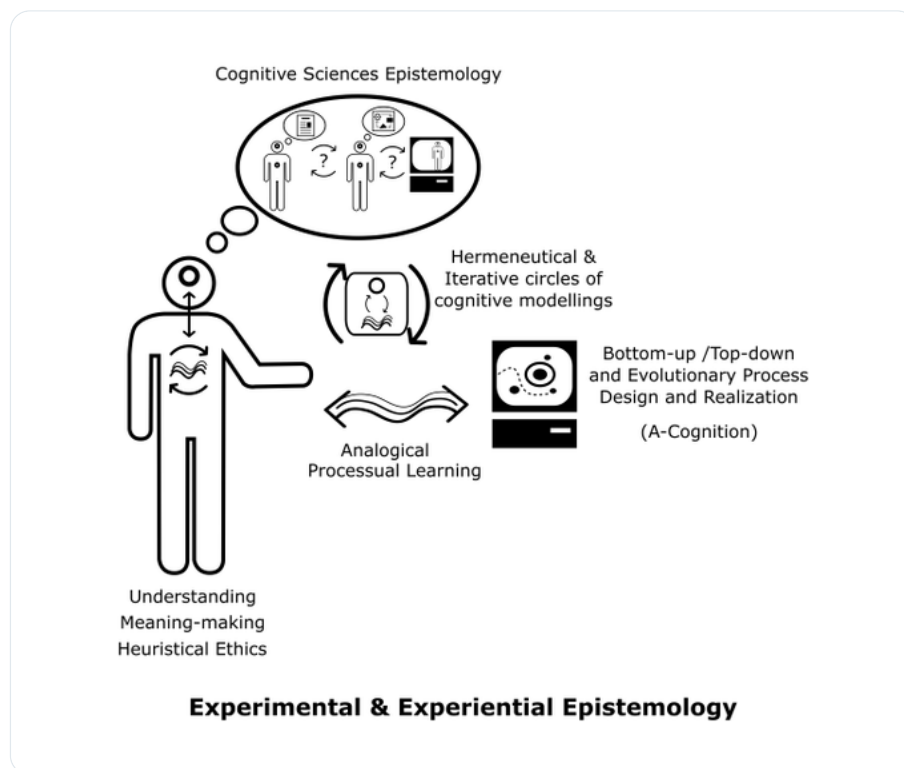


Modeling "without representation" and "without finality" means to \*prioritize\* distributed representations (coherent patterns) over localized ones, and equilibrating causes/conditions reasoning (past) with teleonomy/teleology (future).

In a representationalist formal thinking, everyone can understand the notion of "meta-model" by reifying a 3P-Only thinking, leading if continued to an infinite and irrational reverberation of the "meta". How do we deal with the (ambijjective) "model of the modeling" dimension?



This is where understanding computation, both as calculus but also and mainly as analogical (com-putation), comes into place: as ana-logic.



Computers are second-order machines \*simulating\* the Cartesian body-mind distinction through the hardware-software one. Because our dominant and orthodox (technoscientific) epistemology is based on this distinction, in phase with our survival,

we have collectively & progressively evolved through technoscientific imprinting toward this "realist" polarization of our relation with the world and others, leading for example to what I called the "technological fallacy": attributing analogically to machines human properties.

But, like in traditional science, what is said about machines is in fact said about the human-machine interaction.

So, designing cognitive complex models and simulations, based on quasi-analogic / "self-organizing" cognitive sciences paradigms (like PDP connectionist models), it's doing \*experimental epistemology\* (McCulloch):

seeing the global bottom-up/emerging and behavioral consequences of local functional hypothesis, which could be \*feel\* but not deduced purely intellectually, even through the abstraction of complex "dynamic systems" mathematical representations\*\*\* (cf. end of text).

But also it leads progressively to a trial/error converging \*experiential epistemology\*. By using in full awareness the illusory analogical power of these simulations we can reflect on our own thinking processes by feeling "gestural"/sensori-motor schemes differentiations.

Computer simulations help us to objectify our understanding of the mechanical dimension of our own thinking as analog of internal gestures, like classical machine has showed us the mechanical dimension of our physical behaviors. But of course, we are much more than that.

This is the provocation (gestell) of technology: to try to enframe us in its mechanical dimension while at the same time revealing by concretization the implicit processual dimension of our knowing

and seducing us by its apparent empowerment which is also in fact an alienation and a dependance. Can one live in our society now without smartphone or computer?! Hardly.

For experimenting the ana-logical "experiential epistemology" dimension this time, one need to understand the nature of these machines<sup>2</sup> and master, ideally, the practical process of coding,

that is of designing a functional abstract machine (algorithm) from scratch, and neutrally observe the resulting emerging simulations.

For example, when you simulate an evolutionary "genetic algorithm", you understand that it is just a distributed way to design an optimization function. But life is not only an optimization endeavor even if, in our naïve representationalist conception, it appear so.

Things are more complex & balanced: there is a right and harmonious homeostatical \*dual proportionality\* to find between adaptation & self-organization but also, and particularly for social beings, between creativity and collective social norms (quasi-bidimensionality).

This apparent "functional" conception should be situated, and so \*de-constructed\*, in the enactive paradigm: being able to then de-construct the initial functional understanding toward embodied meaning and "groundless ground" realization.

This lead to an apparent paradoxical existential reflection which is an hermeneutical circulation: the models of the self (A-Cognition) are, in this conception, also (my)self-modeling models.

Information is a difference (formal/spatial) and a difference (processual/temporal) which  
\*also\* makes me an in-formant, thanks to collective philosophical, scientific and  
technological human progress.

Ana-logic is a means of experientially and rationally reconciling the quality/quantity dipole  
and accounting for the uniqueness of reality while attesting to its multiplicity.

\*\*\* Here I don't speak about statistical approaches, which, while operational, shunt the  
detailed functional understanding of these processes through the use of gross  
approximations. I don't confuse meaning with top-down "statistical means".

PDP models are interesting for their detailed explanatory power as \*distributed operators  
enacting functions\*, more than for their (actual) externalist "associationist" use to control.  
Understood in this way they become (self)epistemological tools.

And because the most interesting phenomenon to study are non-linear dynamics, the use of  
linear algebra (matrices) is also limited.

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