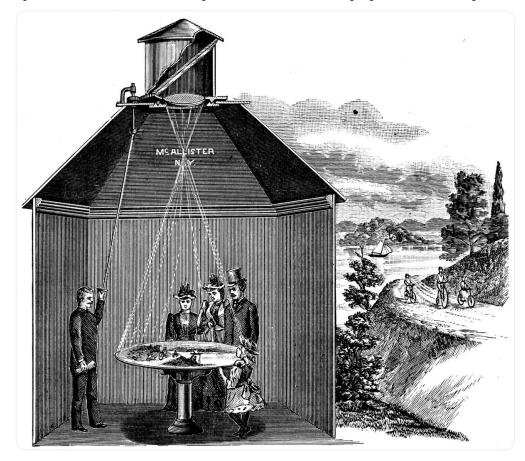


[Understanding Enaction: why enaction is not really "Anti-Representationalist"]

For a first very good and obvious reason: if election was fundamentally "antirepresentationalism", it couldn't represent itself, and enactive people are not that stupid.



What enaction says is that representations are not the foundations of cognition, to the great dismay of cognitivist epistemologies (computo-representationalist functionalism) but also of (neo)connectionist ones.

In fact, enaction is not "anti" anything, it's more subtle: it is "met(t)a".

The "anti-representationalist" posture was elaborated to clearly distinguish itself in the beginning from cognitivism, the dominant paradigm of sciences and technologies of cognition, STC)

in the scientific linguistic domain ruled by the intersubjective dualist propositional logic. This is not that, the third is excluded.

Moreover, enaction is not "anti-representationalist" because it explain how representations themselves are "enacted". A first level of understanding is to think it as the embodied emergence of representations (like the one I'm currently elaborating right now).

This imply a hermeneutic/co-determining circulation between two polarities: the 1P, 1st person/phenomenologic point of view or "view from inside" perspective, which is *embodied*, and the 3d person one (classic science/Cartesianist/Cognitivist)

or "view from outside"/"from nowhere"/"God's eyes" perspective, which is abstract. This abstraction is the representation.

And the representation is in the act: it emerge from the co-ordination of our own sensorimotor loop, homeostatically regulated: this is the "SME" (Sensori-Motor Enaction) approach.

So on this first level of understanding, enaction is a rational way to approach the embodied emergence of abstraction, both at the individual but also at the collective level: this is the "Participatory Sense-Making" approach.

But it's not that "simple". One need to add to these (synchronic) formalization a second asynchronic one: history, as for enaction, cognition is "Effective action: History of structural coupling which enacts (bring forth) a world." (Varela, 1990).

On a personal level, history in which we are objectively embedded, mean also episodic memory (cognitive psychology).

Enaction is (for me) a paradigm of STC, that is to say that it's a *style of thinking and modeling*, encompassing both cognitivism and (present) neo-connectism.

Cognitivism correspond to the sophisticated scientific classical/Cartesianist "common sense". It's the "folk psychology" of the present science, a first order rationality: linear and localized thinking.

Connectionism is based on the same naive "realist" view (the observer severed from the world by the Cartesianist double cut), but add a parallel and distributed/decentralized perspective, that's why I prefer to call these types of models "PDP" (Parallel Distributed Processing).

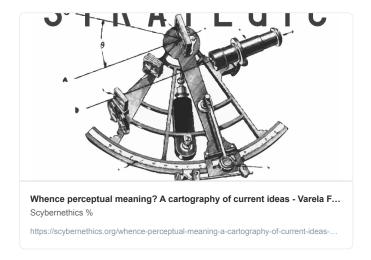
"ANN" or worse "Deep Learning" are misleading and fallacious designations. Heuristics confused with rigorous scientific terminology.

Enaction is one step ahead these types of modeling. It doesn't deny them, but include and integrate them in a second-order perspective which include the observer-actor and think the self and the world not as pre-given but as brought-forth, as "enacted".

So to think "enactively", one need to cultivate an *epistemological flexibility* to be able to circulate between these types of complementary perspectives and to relate them to his own relative and temporary understanding.

This is why enaction is not an easy rhetorical (like cognitivism) or objectively effective (like technologies) way. But converging *iteratively and patiently* toward deep truth and reality has never been easy, or science itself wouldn't exist at the first place.

To understand the relations between these three key conceptions/style of thinking and their roots in cybernetic modeling, I highly recommend to read this seminal little book, complementary to "The Embodied Mind", by Varela himself:



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