

The Trialism of the Embodied Mind

Based on the topic “*Monism and dualism of the (re)embodied mind*”

Abstract

It is the objective of this paper to show how the perceptual and cognitive phenomenology can holistically be represented by considering not just the mind-body dualism, but the environment-body-mind trialism. This allows for a practical representations of the ideological shortcomings of more conventional approaches, but also for drawing future directions to study *in vivo sentient*s (i.e. humans, animals) in parallel with *in silico sentient*s, more commonly known as artificial intelligence agents. Thus, the embodied mind depends upon the physical universe in two ways: on the one hand, the mind needs a local universe to perceive, to observe, to explore, to debate; on the other hand, the mind requires the functioning of its host machine in order to manifest the operations required by the aforementioned objectives of perception, cognition and consciousness.

One critical factor in understanding the dual dependency between consciousness and environment is tracking time, specifically latency. Therefore, the phenomena enveloping consciousness can be divided into two categories: *a priori observatio* and *a priori cogitum*, for those effects which precede observation or cognition, respectively, and *a posteriori observatio* and *a posteriori cogitum*, for those effects which assume and derive from the existence of observation and consciousness.

Relationship to previous work on monism and dualism

The Cartesian “*Dobito, ergo cogito. Cogito, ergo sum*” makes an assumption of the previous existence of the following:

- The observation process had already occurred
- The cognitive process had already occurred
- The cognitive patterns (including language, habits), including that were applied were available at the time of the opportunity to apply them.

Therefore, the Cartesian thought has a very clear boundary and limitation of scope of doubt: the mind cannot doubt a world before observing it, as the same mind draws its capability from the environment. To provide a counterpoint, the mind of an individual who does not grow up in society or who does not have involved, competent caretakers around during its early life is unlikely to even survive to age of being capable of language, let alone being capable of the same level of coherence or cognitive confidence as Descarte’s mind. You can repeat the same

thought experiment by replacing the individual with an indentured servant from Herakleopolis from the time of Khety: such individual is unlikely to even have the linguistic tools to express coherent dialogue, thought or doubt. While doubting existence may have well been a thought forming in some other minds 4000 years before Descartes, it is to be unexpected that such a thought would have been transient, short-lived and encaged in one skull who did not yet have the tools to materialize such though into discourse, dialogue or persistent form. Even the Hegelian belief that "the rational alone is real" relies on many repetitions of observations of the local environment (inside and outside the skull), as well on the pre-existence of some basic education, language and mental discipline.

- Interactionism - the theory that there are two parts, mind and body, influencing each other
- In modern medicine: physical reductionism - it assumes the body and mind are not affected by the environment;
 - counter-example: randomly co-representing two objects, which had never been thought of, visually and phonetically in order to observe a correlation/similarity/cross-usefulness of the two objects
- Searle points
 - Substance dualism - each of us is a physical entity
 - Searle created the "Chinese Room" against a specific version of materialism, particularly computer functionalism, which assumes that a program can be created which replicates intelligent behavior without any experiential knowledge
- "Epiphenomenal [Qualia](#)" (1982) and extended in "What Mary Didn't Know" (1986)
- Epiphenomenalism <https://en.wikipedia.org/wiki/Epiphenomenalism>

Known thought experiments

- [Seale] Chinese Room https://en.wikipedia.org/wiki/Chinese_room - the embodied consciousness here lacks
- [frank jackson] Mary's Room https://www.ted.com/talks/eleanor_nelsen_mary_s_room_a_philosophical_thought_experiment/transcript?language=en
- [Kirk] The Zombie Argument https://en.wikipedia.org/wiki/Philosophical_zombie
- (?)

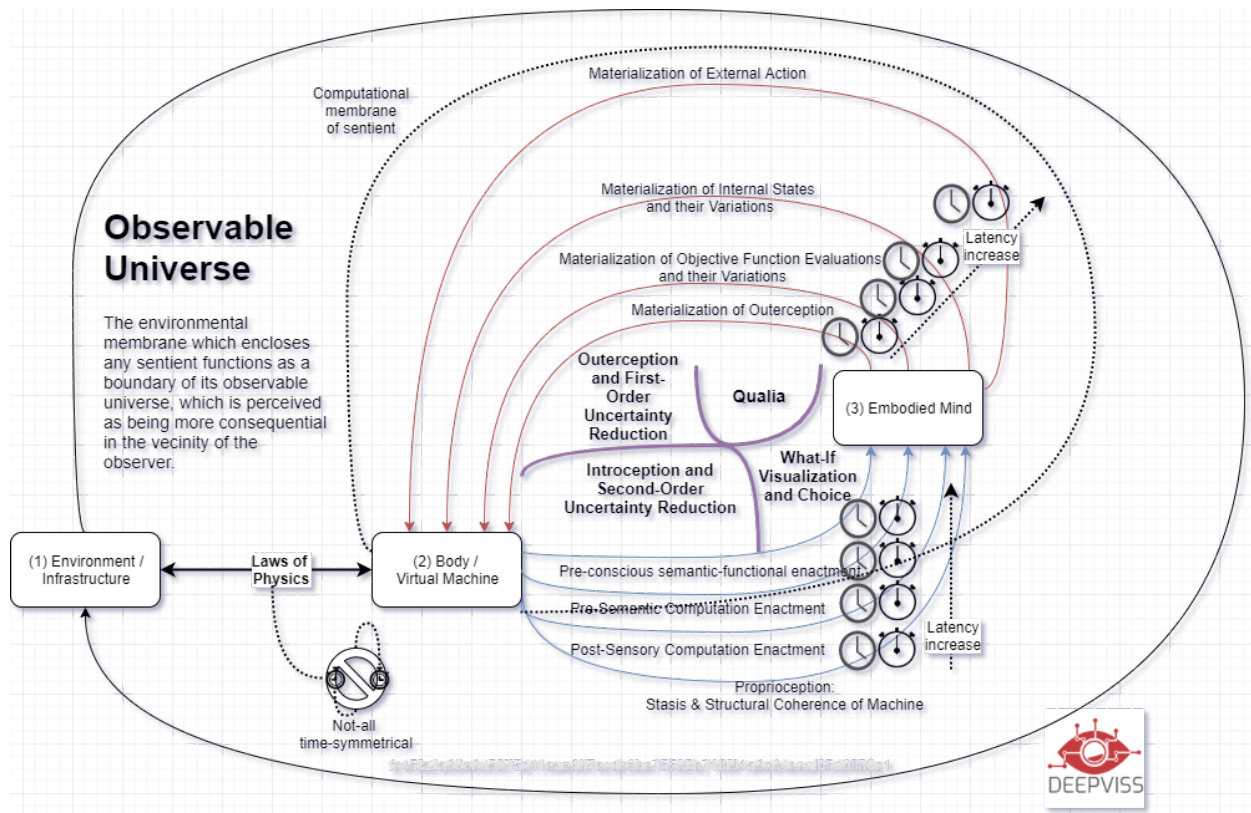
Formal Hypothesis

The false dichotomy of arguing either for monism and dualism can be reconciled by describing the trialistic model, connecting mind, body and environment.

Furthermore, it is our objective that all new assumptions made by the trialistic model be:

- testable and verifiable, at least to some reasonable extent, on carbon-based embodiments of intelligence
- testable and verifiable, at least to some reasonable extent, on silicon-based embodiments of intelligence
- non-reductionist, i.e. whenever a simplifying assumption will be proposed, the impact on the model will be explicitly defined, so as to limit any “hidden assumptions”

Trialism - mind, body, environment



The mind, seen as an embodied set of functions, covers several core duties:

- Outerception - the perception, identification and retrieval of the objects or phenomena in one's salient vicinity
- Introception (introspection) - the perception, identification and retrieval of state changes within one's salient representation of oneself. The perception of self include: integrity, continuity, coherence - with observable states for both mind (mental self) and body (physical self).
- The What-if Visualization of possible future states of internal and external vicinity. By evaluating, more or less shallowly, the docked¹ objective function in the other envisioned, future state of the host environment.
- The Qulia - which is the interweaving of observation and their immediate computational consequences.

Moral hypothesis

The conventional dichotomy between monism and dualism is paralyzed by anthropocentric narrow-sightedness, specifically by the fact that it rarely seeks an explanation of mind and body in a way which serves any non-human sentient.

For instance, the long-debated question regarding animals having souls is clear proof of a human-centric, egotistical perspective from the following point of view: human civilization has first protected animals which look similar to humans or which exhibit behaviors similar to humans (eg. recognition of others, recognition of sounds). Even our typical classification of animals as "pet", "livestock" and "wild" is a projection on human perspective: cute, required and useless/dangerous. It is only as our material conditions allowed us to explore more of nature from safety and comfort that we even considered, culturally, the concept of

Analogy to the materialization of machines

Software, hardware, Internet

Most modern computers can function with a reduced potential-function set with just software and hardware (without Internet).

However, should an alien judge the capabilities of two computers, one which is connected to the Internet and another one which is not, the alien is unlikely to consider both comparably intelligent.

In order to fix the broken argument of monism vs. dualism in order to thus define the trialist equilibrium of mind-body-universe, one must acknowledge the four failure of any and all autonomous thinking machines:

- Out of Time - Time Out

¹ Those objectives which have been chosen to be actively pursued in the sense of improving their state.

- Out of Memory - Out of Memory
- Out of Energy - Low Power
- Out of Connectivity - Network Down

Buckling the duties (objective function) of consciousness

Riveting "das Wille zum Leben und Macht" into both the perceptual space and into the envisioned/conceptualized action states in order to reveal the quality underlying all life: the uncertainty reduction is made with the primary purpose of perpetuating the own state of awareness, either in oneself, in the descendants of the self and in the form of other sentient which have been touched by it.

DRAFT CONCEPTS

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The knot of consciousness : the knot that is tied by perception (incl. {introception - of self, otroception - of others}), cognition (sequential, logical, differential, associative/Hebbian) and memory, under the duty of uncertainty-reduction over external states and internal states (including the perception of future desirable or undesirable states, sorted by perceived probability) .

In the case of computers, this seems to be the CPU, the physical location of decision and execution flow control. In the case of multi-core CPUs, we are dealing with a split mind case, where several decisions can be made in causal independence, during the same clock cycle.

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A computational membrane is a boundary which is crossed by a known, enumerable, finite set of well-specified communication channels and which is, otherwise, almost-impenetrable to observation and to state changes, bi-directionally.

The membrane is also defined by an energy intake profile across time (energy consumption) and entropy exhaust (energy which does not contain information and which is dejected in the environment).

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The Analysis of Qualia

The ineffability of qualia is actually due to the prescient, preconscious, prelingual nature of its building blocks (i.e. “atoms”, or irreducible sets of specific physical objects and/or phenomena). Therefore, it can be said that in all ontogenetic, temporal and functional views, the items which computationally produce the layer of qualia precede, in fact, the *learning, construction and use* of any sort of language.

Daniel Dennett identifies four properties that are commonly ascribed to qualia. According to these, qualia are:

intrinsic; they are non-relational properties, which do not change depending on the experience's relation to other things.

ineffable; they cannot be communicated, or apprehended by any means other than direct experience.

private; all interpersonal comparisons of qualia are systematically impossible.

directly or immediately (?how fast") apprehensible in consciousness; that is, to experience a quale is to know one experiences a quale, and to know all there is to know about that quale.

Enforcing the boundary-conditions of consciousness

In order to perception to function, the materialization of its (sub)functions must be:

- Fit for purpose (i.e. is capable of performing the function) - they must identify with enough accuracy the object or feature which is known or assumed to be of relevance to achieving one or several of the objectives pursued
- Fit for use (i.e. is capable of respecting the constraints of its function and the expectation of its use) - all consciousness and any dependencies (eg. sight, memory) must be embodied within the spatial, temporal, energy and entropy confines of the body, which must respect similar constraints induced by the environment. Let it be noted that in our model, any constraints act as a probability-reducers, not as possibility-nullifiers.

It is often times that the energy (i.e. uses too much food or sun and is not sustainable) or the spatial (i.e. too wide, thus making it less likely to fit in narrow spaces) or the time constraints (i.e. the prey is too slow and will be caught by its predators with a high probability) indirect influence both body and mind, through limiting the accessibility of states required or desired by the sentient. This implicit, de facto roadblock of nature (eg. “you can have more energy/time/space!”) actually becomes a warp in the fabric of objective-function field, which is the momentary snapshot of how the good/bad, better/worse, closer/farther functions are being computed behind the curtains of our minds on each tick of the clock.

Notes

From time to time, we all need some slack in the bolts and rivets and joints of how our hallucination is clamped to the physical machine that carries it

Our notion of God (or any similar shared-symbol) is at least somewhat involved whenever a phenomenon occurs which we are insufficiently able to individually-imagine, collectively-represent, formally-model or, at last, embody-at-will.

We all have a right and a duty to seek happiness, sure. But seeking happiness is not the same thing as <enforcing our notion of happiness on how the world works>.

References

Robinson, William (2015). "Epiphenomenalism". In Edward N. Zalta (ed.). *The Stanford Encyclopedia of Philosophy* (Fall 2015 ed.).

Dennett, Daniel (1985-11-21). "Quining Qualia". Ase.tufts.edu. Retrieved 2010-12-03.

Viewed:

<https://www.youtube.com/watch?v=3SJROTXnmus>

<https://www.youtube.com/watch?v=lgWbExnceHE>
