A Conceptual Foundation for Deeper Insights into Living & Nonliving Systems

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Comparing Modern & Postmodern Science

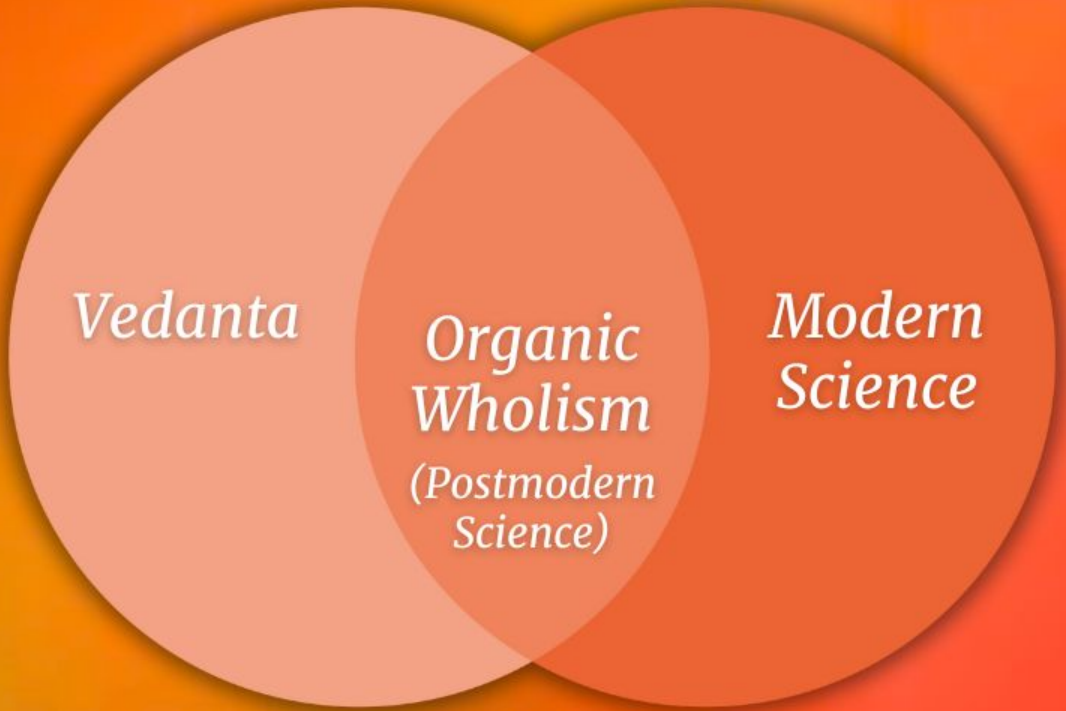
Modern Science

- *matter is fundamental to reality*
- *matter = an existent static being comprised of individual parts or atoms related and unified in a manner external to them*
- *reality is an inorganic mechanical system*
- *physics is the most fundamental natural science*
- *chemistry reduces to physics*
- *biology reduces to physics & chemistry*
- *origin of life = abiogenesis (life comes from matter)*
- *nature is purposeless*
- *insentient bodies evolve from one species to the next through random genetic mutation & natural selection*

Postmodern Science

- *reality is fundamentally an active process that encompasses matter as an infantile moment of its development*
- *reality is an Organic Whole that sublates or integrates all underdeveloped stage (like matter) in the unfolding of more comprehensive stages that accommodate static elements as a kind of function of the Organic Whole's dynamic processes*
- *biology is the most fundamental natural science, where physics & chemistry should be studied in light of biological & ecological processes*
- *origin of life = biogenesis (life & matter come from life)*
- *nature is purposeful*
- *biological diversity results from the evolution of consciousness*

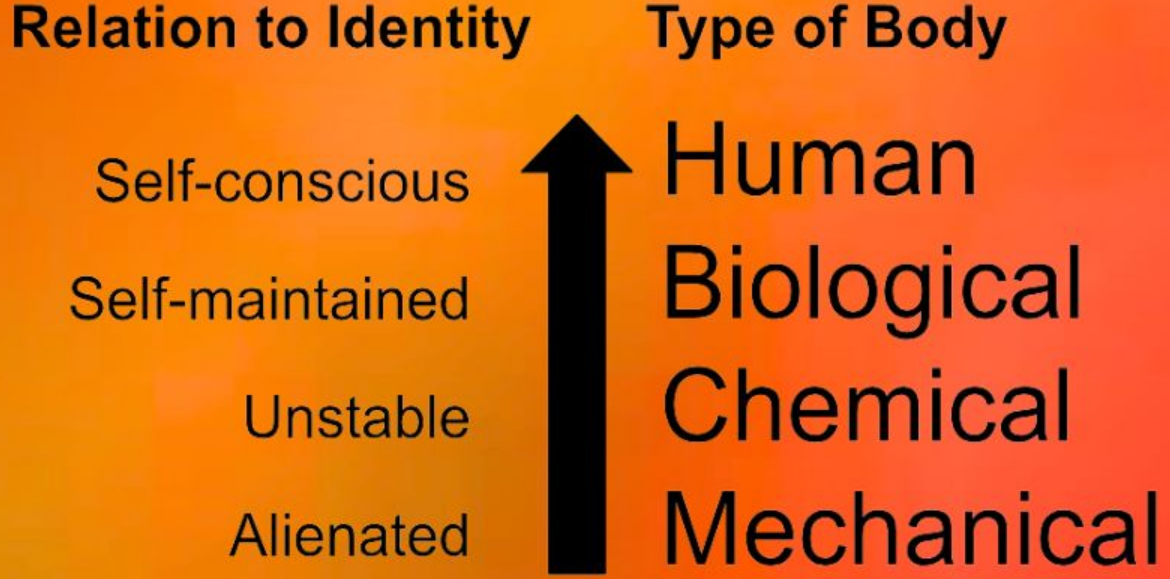
Comparing Modern & Postmodern Science



The Logical Development of Self/Other Dynamics in Nature

- *everything exists external to each other in nature, although the development of nature shows that everything is actually intimately connected*
- *for natural bodies, externality refers to the identity of the body being outside of itself*
- *the degree to which a body successfully overcomes externality and claims its identity determines its superiority to the other kinds of natural bodies*
- *this development reveals a spectrum of states of integration between self and other where inferior bodies cannot sustain this integration, thus giving rise to the logical necessity for a kind of body that can*
- *the human body is the only kind of natural body with the potential for permanently maintaining the unity between self and other*

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The Logical Development of Self/Other Dynamics in Nature | Mechanical Bodies

- *corporeal body = Descartes' extension (res extensus) = space or spatial extension*
- *identity is external to the corporeal body*
  - *consists of X number of points*
  - *each of those points inheres in a single body but external to every other point of that body*
  - *this externality of each point from every other is what makes it an extended object*
- *the limit of the body is the boundary where the self of the body ceases and otherness begins*
- *the other is essential for determining the identity of the self*





The Logical Development of Self/Other Dynamics in Nature | Mechanical Bodies

- *the selfhood of a mechanical body is mediated through its other, the nature of these bodies is such that mechanical encounters result in collision and rebounding in opposite directions*
- *mechanical bodies never accomplish unity between themselves and otherness*

nature requires a body that can accomplish this...





The Logical Development of Self/Other Dynamics in Nature

Chemical Bodies

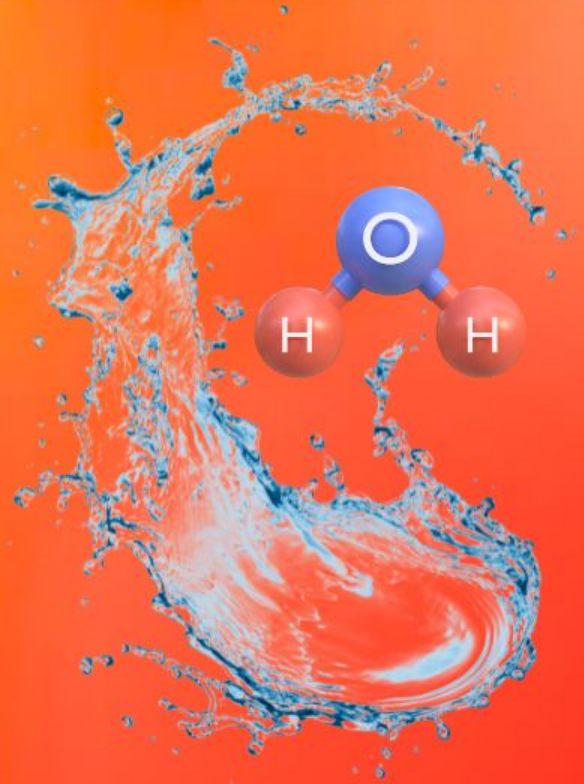
- *has all properties of a mechanical body, plus it overcomes not uniting with its other*
- *chemicals are polar bodies that attract and bond with one another, producing a compound where both sides retain their identity while existing in that unity*
- *bonding refers to an intrinsic affinity between two chemical bodies*
- *despite this affinity, the bond can be broken and each reactant can return to its previous state*



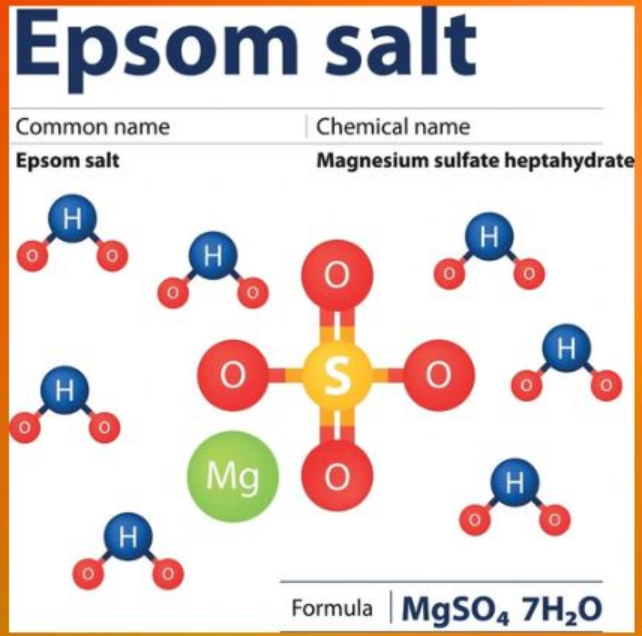
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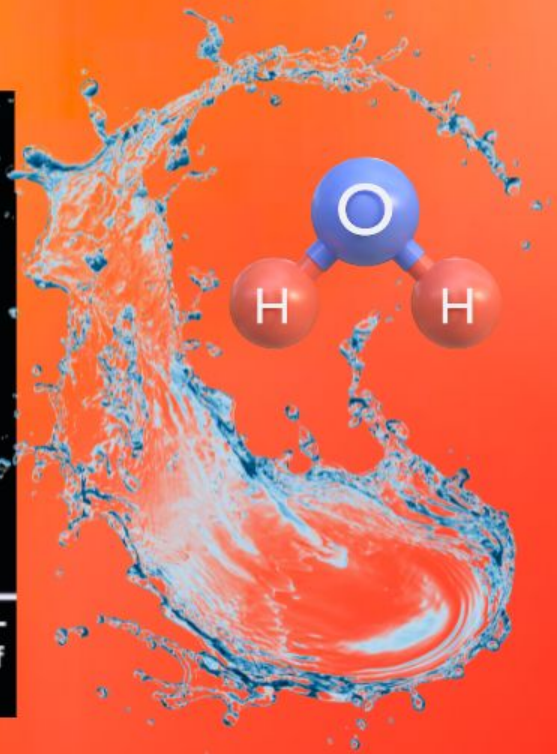
- *the affinity also remains in chemical products and compels them to continually bond with other bodies perpetually forming other compounds*
- *this prevents chemical bodies from ever becoming a real identity since otherness keeps opposing successive compounds without assimilating to a lasting unity*



The Logical Development of Self/Other Dynamics in Nature | Chemical Bodies







The Logical Development of Self/Other Dynamics in Nature

Biological Bodies

- *distinguished through their self-determined ability to assimilate otherness with themself*
- *when a grass consumes sugar, or a cow consumes grass, only the food is transformed, not the consumer*
- *the food's original constitution disintegrates into basic units that are integrated and repurposed by the consumer's body to fuel biological processes*
- *whether eating food, breathing air, or absorbing sunlight, biological bodies maintain their integrity by assimilating otherness*
- *this overcomes the inadequacyof chemical bodies, which never maintain their unity with otherness*



The Logical Development of Self/Other Dynamics in Nature | Biological Bodies

The Standard for Organismic Integration
given by Immanuel Kant in the Critique of Pure Judgement

1. *the whole depends on the parts*
2. *the parts depend on the whole*
3. *the parts depend on each other*

This serves as a metric for distinguishing between degrees of integration exhibited by plants & animals



The Logical Development of Self/Other Dynamics in Nature

Biological Bodies

Distinguishing Plants & Animals

The Standard for Organismic Integration

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2. *the parts depend on the whole*
3. *the parts depend on each other*

Comparative Behavior	Plant	Animal
Dismemberment (loss of limb/organ)	Does not significantly affect the biological processes of the original plant. Cuttings can be used to propagate entirely new plants or be grafted onto existing plants to diversify fruit production.	Devastating and possibly lethal to most animals. Some fish and amphibian species are exceptions to this. Dismembered parts are not compatible with other animals.
Regeneration of limbs/organs	Almost all plants regenerate lost limbs/organs.	Very few animals regenerate limbs/organs.
Assimilation of the spatial aspect of the environment	Plants are stationary, remaining in a sort of limbo between self & other (individual & environment) where spatiality is not assimilated.	Animals are mobile, clearly assimilating spatiality and distinguishing between themselves and the environment.

The Logical Development of Self/Other Dynamics in Nature

Biological Bodies

Distinguishing Plants & Animals

- *Kant's organismic standard is clearly present in animals*
- *integrity of animal bodies is strong*
- *the whole & parts are profoundly integrated & interdependent*
- *plants do not demonstrate such strong integrity*
- *their whole & parts are relatively independent*

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The Logical Development of Self/Other Dynamics in Nature | Biological Bodies

What is the deficiency of biological bodies?

- *living entities possess & assimilate what is other from themself to maintain themselves*
- *reproduction cannot be satisfied by simply absorbing the other*
- *two mates engage in sexual unity such that both individuals remain as they are; neither is transformed into the other*
- *this frustrates the living entity — seen in aggressive sexual tendencies — since they cannot absorb otherness as usual*
- *this lack of assimilation interrupts the integration of self and other*

Biological bodies can only assimilate otherness through annihilating differences, and this is the downfall of their unity...

The Logical Development of Self/Other Dynamics in Nature | Human Bodies

Humans assimilate otherness while preserving differences, accommodating unity-in-diversity & identity-in-difference

- *encompasses all of the previous kinds of bodies and relationships – mechanical, chemical, & biological – maturing beyond them*
- *humans are not "rational animals," plants & animals do not think*
- *humans are in a totally distinct category*
- *nonhuman living entities have cognitive experience (making decisions, cooperating, solving problems), but only humans are aware of cognitive experience while it's happening*
- *this self-aware experience is what allows us to inquire about our identity & purpose, which has given rise to the sciences, humanities, & civilized life*



The Logical Development of Self/Other Dynamics in Nature | Human Bodies

Thought is the capacity for an intentional development of self-conscious experience

- *humans overcome the limitation of animals by assimilating their partner through thought*
- *humans can assimilate anything in the environment through knowing it, including knowing themselves (self-knowledge)*
- *this is how humans assimilate otherness without annihilating differences*
- *the structure of thought is inherently dialectic, accommodating the synthesis & harmony of opposites like unity & diversity or identity & difference*

Hegel's philosophy offers a robust development of this line of thought, which is deeply complementary to the Vedic view



Conclusion

This conceptual development connecting mechanical, chemical, biological, and human bodies through considering self/other dynamics can serve as a foundation for deeper insights into living & nonliving systems.

In summary, the identity of each kind of body lies in their other. Self and other are external to each other in nature, because externality itself is one of the fundamental determinations of nature as immediately conceived, as Hegel explains. This corresponds to the Vedic conception of bahiranga-shakti (external potency) or maya-shakti (illusory energy) because this externality between self and other is not adequate to their truth. In truth, self and other are a deeply and dialectically connected identity-in-difference. This starts to become clear through the development of the sophistication of different kinds of natural bodies.

Conclusion

	Necessity of Existence	Inadequacy	Relation to Identity (identity of self lies in the other)
Human	Through the capacity for thought, establishes unity that does not require the annihilation of difference	Unity of self and other is *not disturbed*, due to the accommodation of unity-in-diversity	Self-conscious
Biological	Establishes continuous unity where otherness is consumed and assimilated with the unchanged self	Unable to assimilate mate during reproduction, disturbing unity	Self-maintained
Chemical	Establishes an initial unity with otherness as a compound	Polar nature causes perpetual bonding, disturbing the unity	Unstable
Mechanical	The most basic existence of a spatially extended body where self and other remain external to each other	Dependent on otherness yet repels the other when encountered, preventing unity	Alienated

Key Takeaways

- *Modern science presupposes that all natural bodies are mechanical*
- *Ontological monism — the notion that things just exist, that there's only one kind of fundamental existence — inevitably leads to atomism and reductionism, where wholes can only be conceived as aggregates of parts, i.e. mechanical unities*
- *The categorical differences between mechanical, chemical, biological (nutritive and sentient), and human bodies represent an ontological plurality*
    - *Aristotle enunciated that "Being is said in many ways"*
        - *Metaphysics 1003a, 1017a, 1019a, 1026a, 1028a*
- *The conceptual framework presented here offers a straightforward way to experimentally test reductionist/mechanistic presuppositions based on how different individual bodies interact with their environment*

Central Philosophical Principles of Organic Wholism

- *The fundamental principle of Organic Wholism is expressed in Hegel's Phenomenology of Spirit §20 thusly:*
  - *"The truth is the whole. The whole, however, is merely the essential nature reaching its completeness through the process of its own development. Of the Absolute it must be said that it is essentially a result, that only at the end is it what it is in very truth."*
- *Also, Kant's threefold organismic standard*

The development from mechanical selves being aliented from their identity through human selves who are self-conscious of their identity-in-difference with otherness represents particular moments of the Absolute Truth's, the Organic Whole's, own process of self-knowledge

Central Philosophical Principles of Organic Wholism

- *Finally, everything pivots on the point that **Absolute reality is as much subject as it is substance**. This establishes the thesis and antithesis. We try to state the truth either as the rational or the experiential. This is a one-sided understanding. But the one side implies that there's another side. The whole is the unity or synthesis of the two. There is a dialectical relation between subject (rational) and object (experience) which is evident in living nature. This unity exists immediately physically as life, a synthesis of objectivity and subjectivity i.e. the mind and body of living entities, then more mediated as cognition where the very faculty of cognizing an object requires taking it into one's mind, and at the highest level, this dialectical relation between subject and object (substance) is the Truth or Absolute Idea. The capacity to accommodate this dynamic development within thinking is what Hegel calls speculative.*

Central Philosophical Principles of Organic Wholism

These logical principles are in agreement with the conclusions of both Vedantic and Hegelian philosophy

They are also valuable to systems scientists interested in

1. comprehending any level of organization in a manner that can cohesively scale up to the broadest most universal aspect of reality
2. constructing systems in order to observe the manifest principles of ontological plurality and expand upon this conceptual foundation for deeper insights into living & nonliving systems

This presentation represents a work in progress culminating in a forthcoming book.

If you are interested in this conception and recognize its value for the progress of 21st-century science, kindly consider contacting us.

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