

Quantum Physics and Eastern Philosophy

Tarja Kallio-Tamminen

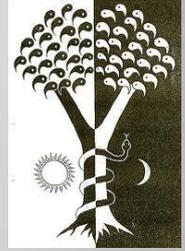
What is consciousness and its role in nature?

- Broad, general approach based on natural science and eastern meditative tradition.
 - Main sources
 - Examination of the paradigm change caused by quantum physics
 - Experience in yoga practice

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- Broad, general approach based on natural science and eastern meditative tradition.
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 - Experience in yoga practice
- Purpose: find a basis for good life and ecologically sustainable future.

Two contrary perspectives



- **WESTERN SCIENCE**

- Explores the laws and structures existing in the material world.
- Provides objective 'third person' knowledge about external reality.

 – indirect access to subjective phenomena

- **Knowledge is based on observations and reasoning**

- **Consciousness is a property of the knowing subject**

- Its origin is unknown (if its existence is accepted at all)
- Immutable (a by-product of computation in brain neurons)

- **INDIAN PHILOSOPHY**

- Emphasis on proper life and spiritual self-realization.
- Seeks to liberate individuals from false beliefs and attachments
 - 'first person' account about internal and external matters

- **Direct intuitive insight is also possible**

- **Consciousness is related to the ultimate reality**

- Individuals are conscious because they are connected to spirit.
- Consciousness expands as one gets closer to spirit

Concept of consciousness depends on the world view

- World view is the ultimate context within which we try to conceptualize everything we encounter.
 - It gives the tools to understand consciousness



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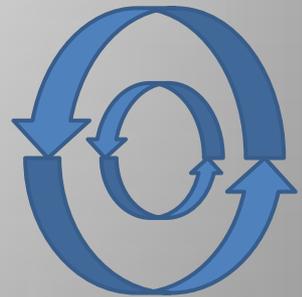
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- Should humans be seen as
 - Material (biological) beings whose brain produces mind and consciousness or as
 - spiritual beings who are embedded in matter

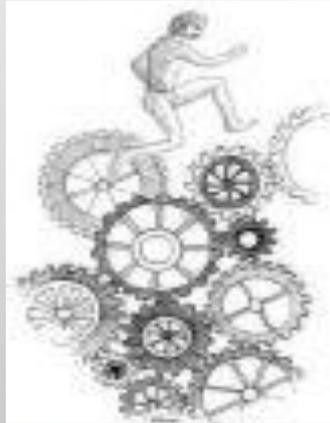


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 - It gives the tools to understand consciousness
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- Should humans be seen as
 - Material (biological) beings whose brain produces mind and consciousness or as
 - spiritual beings who are embedded in matter
- Or can we get a better description in a more covering framework?



Revolution at the beginning of the modern era



Reality consist of matter in motion
-you cannot find a soul



**Science replaced religion as
a cultural driving force**

Reality is comparable to a clockwork
mechanical, quantitative, and without a purpose



- **The particle-mechanistic world-view was taken to be true**
 - It was based on solid mathematical theory and confirmed by empirical observations
 - And contained (unwarranted) metaphysical presuppositions
 - atomism, determinism, reductionism
 - objective, external observer

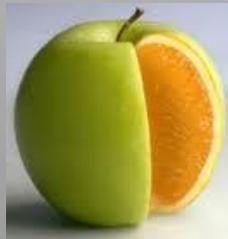


The framework was good enough

- to explain and solve countless problems
 - boost up huge (technological) progress, and
 - change the world.
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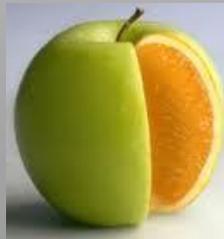
Yet there are some disturbing anomalies and limitations in a clockwork reality

- How humans are related to nature?
 - No solution to mind-body problem
 - Dualism, materialism, idealism, functionalism...
 - No place for consciousness, freedom or responsibility
- The split between “the two cultures”
 - breakdown of communication between the sciences and humanities
 - Such a severe dissociation would be damaging in an individual.
- The “objective reality” is not immutable
 - The emergence of environmental problems
 - New technologies create new kind of conditions for future generations



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Humans do affect the course of evolution...

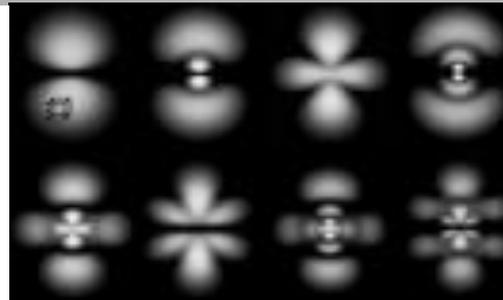
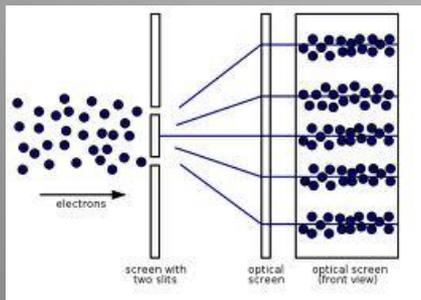
Quantum physics collapsed the familiar world view



- Quantum phenomena cannot be understood within the particle-mechanistic context
 - wave-particle dualism, entanglement, statistical predictions, measurement problem...
- The theory generated prolonged interpretation discussions
 - Copenhagen interpretation, Many-worlds interpretation, Statistical interpretation, Bohm's interpretation, Quantum logic, Decoherence, Consistent histories..
 - All the interpretations imply profound changes to the world view
- Ultimate metaphysical questions are at stage
 - a new general map is needed to enable navigation when dealing with quantum phenomena, complex systems, evolution, life...

Who knows?

- What is the basic stuff everything is made of?
- What is the relation between the parts and the whole?
- How do the objects and their properties emerge?
- What is the role and locus of humans?

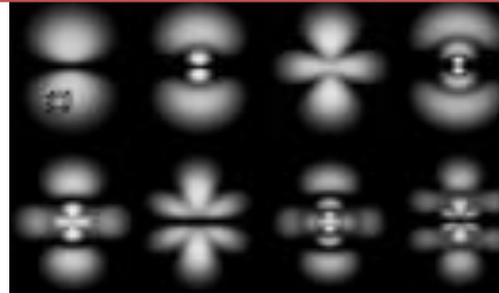
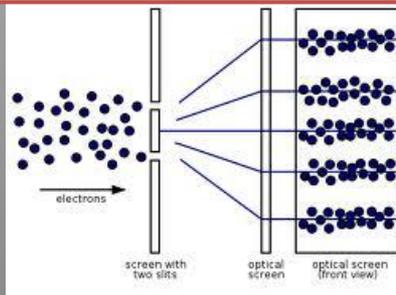
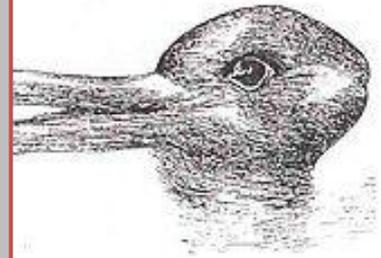


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A major paradigm change may change the rules, raise up new questions, categories and distinctions.

Maybe the old controversies between science and humanities, Western and Eastern thought just disappear.



Obviously

- **Wholeness, inherent interconnectedness:**
 - in addition to external relations there are subtle, non-local connections between seemingly separate parts.
 - New kind of invisible factor (field, potentiality, information...) is affecting the formation of matter
- **Indeterminism, irreversible development** (history matters)
 - Measurements make a change into the unfoldment of events.
 - Human choices and activities matter.



Reality is not mechanical. There is room for activity of conscious human beings.

- quantum physics might be used to describe the formation of material and mental phenomena
 - Mental states need not be identified with brain states
 - Allows non-local connections

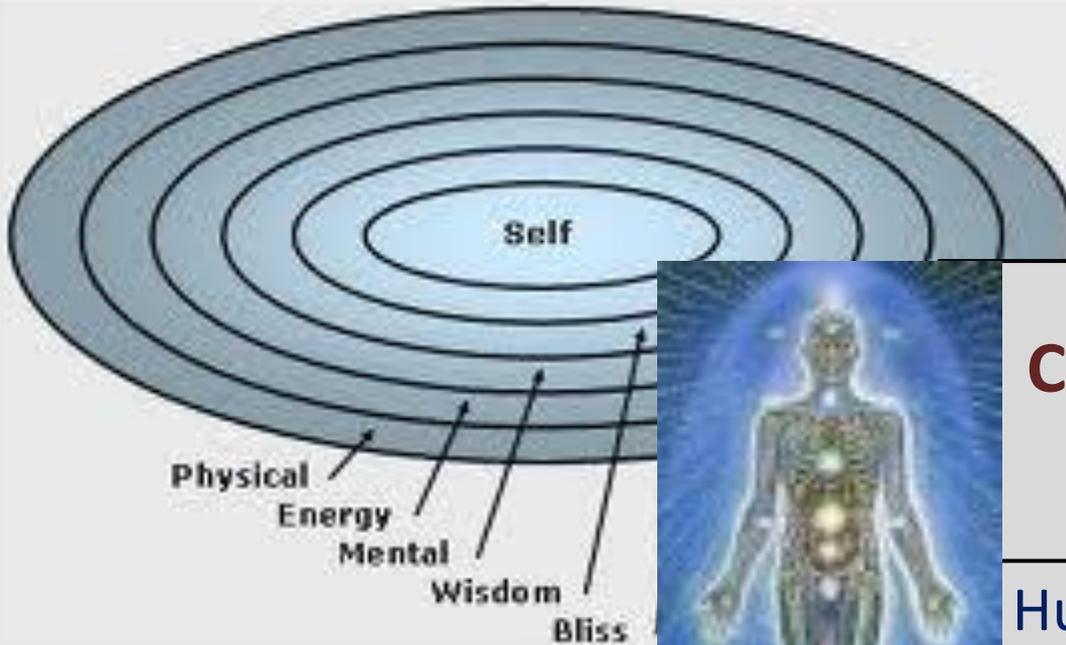
Interpretation and Eastern ideas



- **Parallels and similarities**
 - Founding fathers starting from Bohr, Heisenberg, Schrödinger...
 - Bohm and Krishnamurti
 - Fritjof Capra: The Tao of Physics (1975)
 - “Physicists do not need mysticism, and mystics do not need physics, but humanity needs both.”
- **Tendency towards idealism**
 - John Hagelin, Amit Goswami...
 - Unified field is the basis of mind and matter
 - Everything is just vibrations on that field
- **The factual role of humans in the formation of reality has not been considered much.**
 - Indian philosophy provides **realistic** ideas concerning the interplay between consciousness and matter.
 - Clarifies the role of consciousness in humans and in the cosmic evolution



Plurality emerges from one immutable basis

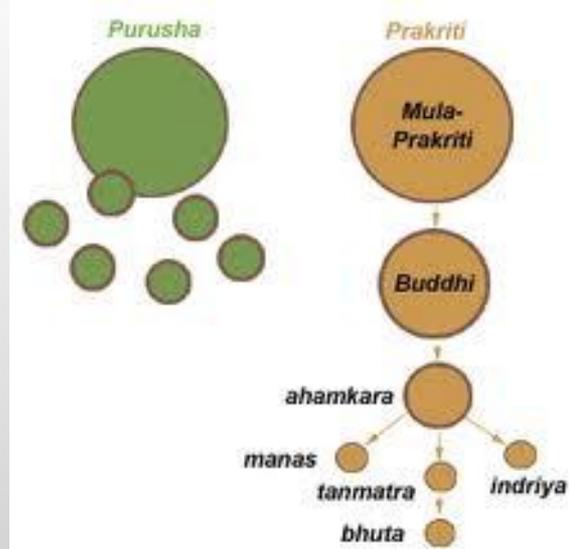


Consciousness and matter are intrinsic to reality.

Humans are conscious, evolving beings who are embedded into the corporeal layers of nature.

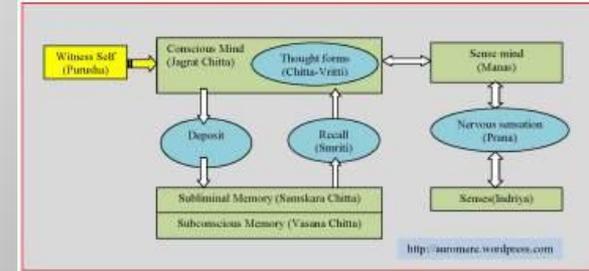
The relations of mind, matter and consciousness in Indian philosophy

Samkhya (dualism): purusha and prakriti are different categories which get entangled in evolution
 - Consciousness is induced to all structures



Vedanta (monism): Brahman and maya are ultimately united, and all things share the same consciousness.

brahman = atman "tat tvam asi"

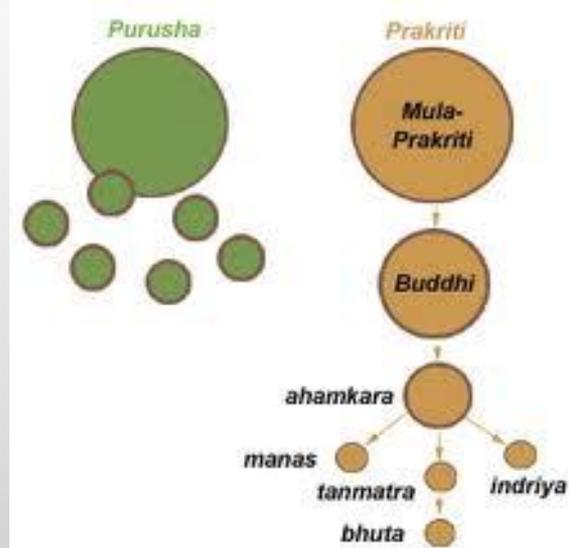


Tantra: elaborate anatomy of different energetic levels, subtle bodies, whose functioning can be more or less cognized.
 - Evolution from instinctive responses to cosmic consciousness



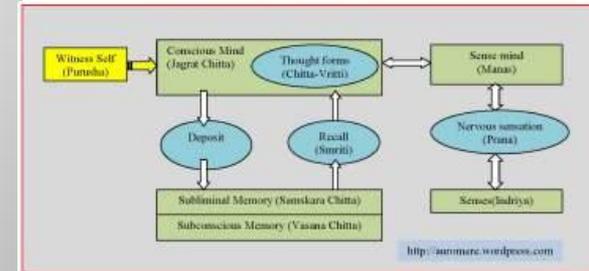
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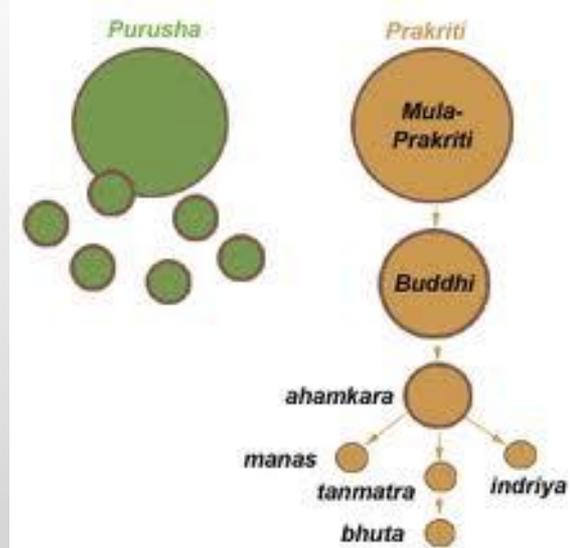
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Potent frameworks to produce mental technologies



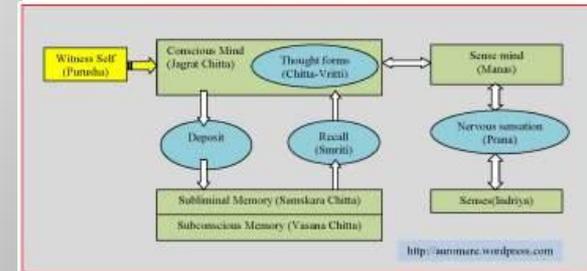
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Potent frameworks to produce mental technologies

When liberated from false identifications to the lower structures consciousness is supposed to tune into the higher level of reality.





Patanjali's yoga philosophy and psychology



- **Primeval theory of human beings, their cognitive structures, inner transformations and relations into nature.**
 - fits into the frameworks of samkhya, vedanta and tantra philosophies
 - Validity cannot be totally grasped without practice
- 8 methods of purification to eliminate ignorance, clarify the mind and realize inner freedom.
 - yama, niyama
 - Moral principles, right way of living: non-violence, truthfulness, purity, self-control, contentment, dedication...
 - asana, pranayama, pratyahara
 - posture, breath control, withdrawal from sense perceptions
 - dharana, dhyana, samadhi
 - concentration, meditation, contemplation. Merging into the absolute, liberation.
- **Purification provides access from ego to a higher self.**
 - **Sense of personal growth and development.**
 - **Health, equanimity, intuitive insight, supernatural powers..**

What does the foregoing imply?

- Humans (conscious beings) can enquire into reality through external and internal methods.
 - Direct intuitive vision may be less reliable when distorted by the intermediating mental contents, thought patterns etc.
 - Yet introspection is paramount to understand the mental states and realities: constitution of the mind, selves, agency, volition...
- Both methods are needed to find out
 - the interrelations between mind and matter. Mental causation?
 - How much deliberate actions (therapy, meditation) can change the brain.

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- Both methods are needed to find out
 - the interrelations between mind and matter. Mental causation?
 - How much deliberate actions (therapy, meditation) can change the brain.
 - the human potential to influence the formation of our future environment
 - Our actions are conducted by mental models and representations

To what extent do the social and environmental problems reflect our state of mind? Are we captured into destructive patterns?

What is consciousness and its role in nature?



Material aspect

Source of substance, stability, lawful repetition.

Conscious aspect

Source of knowledge, change, deliberation.

Realm of life

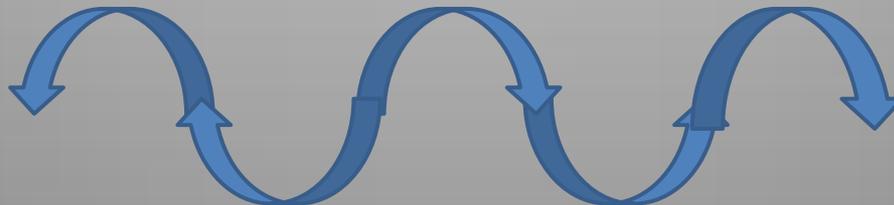
- ◇ Generation of new forms, species etc.
- ◇ Generation of inner realities, conceptions, models, theories and cultures.

Connection to matter provides knowledge of the bonding hard facts

Connection to consciousness provides means to understand and re-program the stable patterns .

Why do all the models of consciousness fail?

- **Models are limited, temporary representations given by humans**
 - Their creation demands consciousness, and because of consciousness we are able to interfere, correct the limitations of previous frameworks.
 - Cultures evolve like individuals when overgrowing old ways of seeing.
 -
- **Representations cannot grasp their creator**
 - A non-circular explanation of consciousness is not possible, as it is the source of every description.
 - Yet by evaluating different models we may come closer to the truth.
- **Ultimate reality is beyond common logic, concepts and subject-object distinction**
 - It can only be experienced if one is able to merge into the totality



Thank you!