

# Quantum Physics and Eastern Philosophy

Tarja Kallio-Tamminen

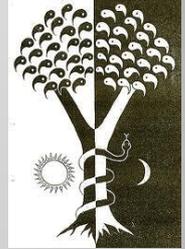
# What is consciousness and its role in nature?

- 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

# What is consciousness and its role in nature?

- Broad, general approach based on natural science and eastern meditative tradition.
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    - Examination of the paradigm change caused by quantum physics
    - 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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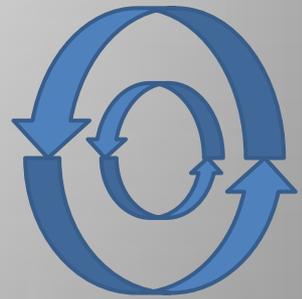
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  - Material (biological) beings whose brain produces mind and consciousness or as
  - spiritual beings who are embedded in matter

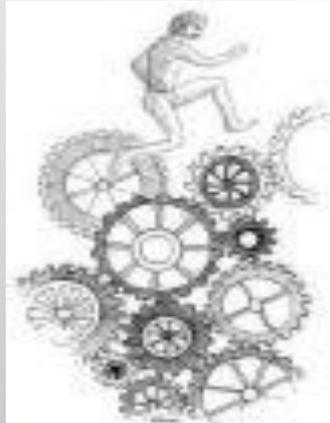


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- Should humans be seen as
  - Material (biological) beings whose brain produces mind and consciousness or as
  - spiritual beings who are embedded in matter
- Or can we get a better description in a more covering framework?



# 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

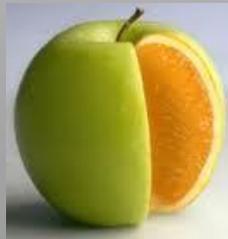


## **The framework was good enough**

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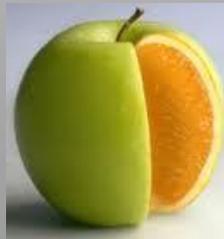
# Yet there are some disturbing anomalies and limitations in a clockwork reality

- 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...

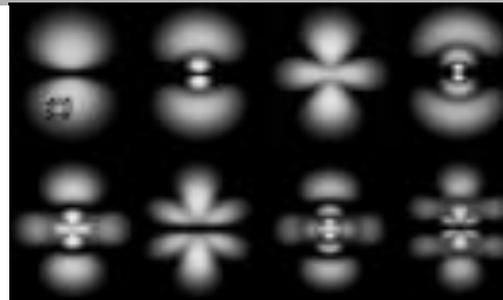
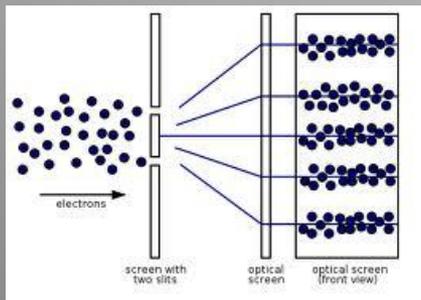
# Quantum physics collapsed the familiar world view



- 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?

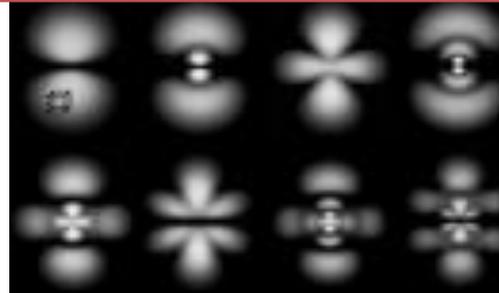
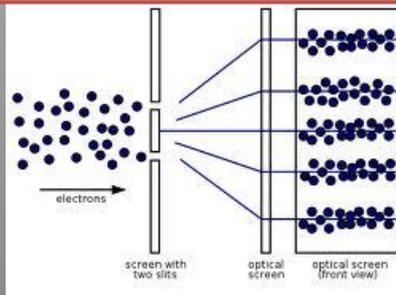
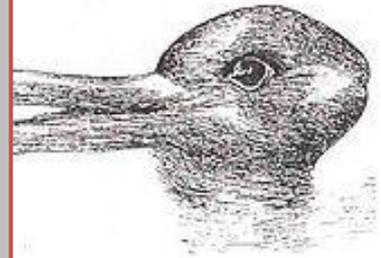


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A major paradigm change may change the rules, raise up new questions, categories and distinctions.

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

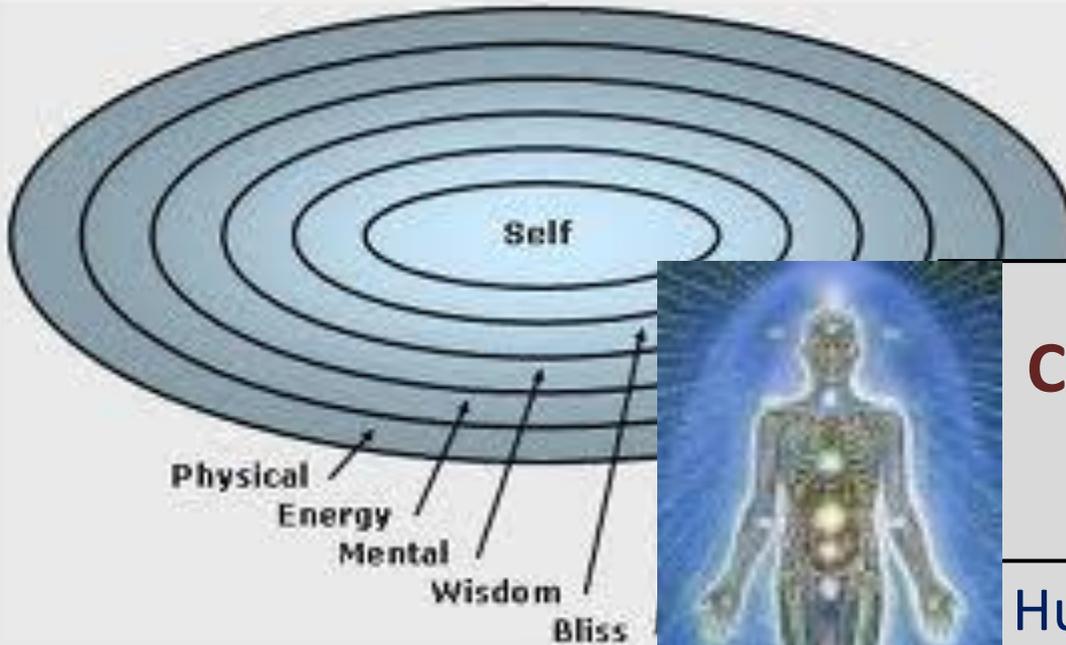
# Interpretation and Eastern ideas



- **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

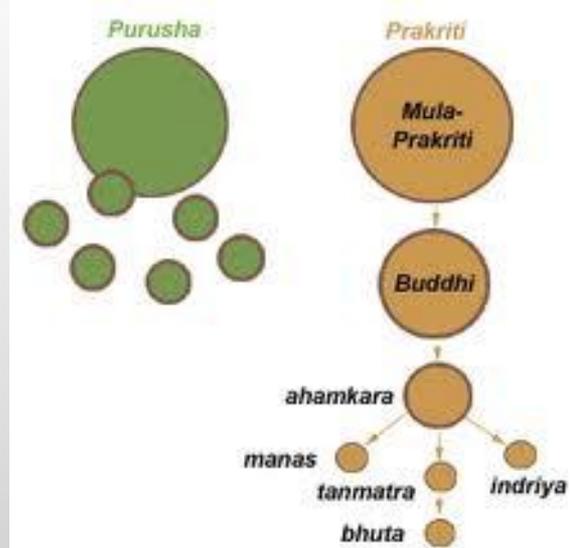


**Consciousness and matter are intrinsic to reality.**

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

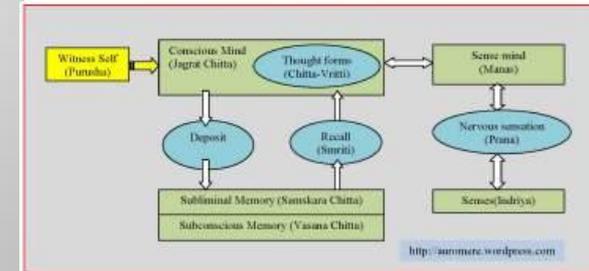
# The relations of mind, matter and consciousness in Indian philosophy

**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"**

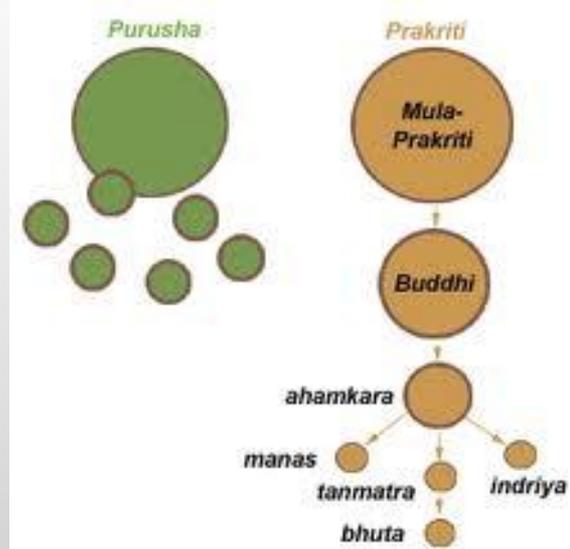


**Tantra**: elaborate anatomy of different energetic levels, subtle bodies, whose functioning can be more or less cognized.  
 - Evolution from instinctive responses to cosmic consciousness



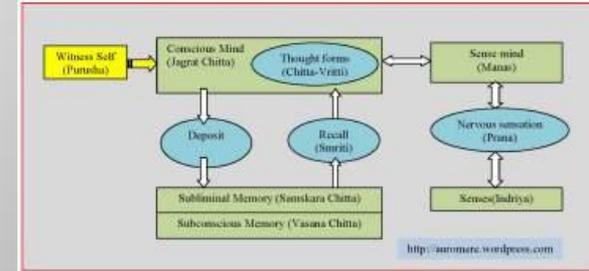
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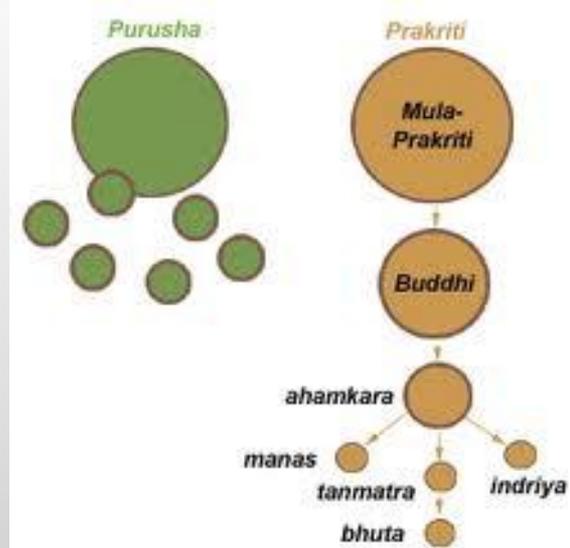
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**Potent frameworks to produce mental technologies**



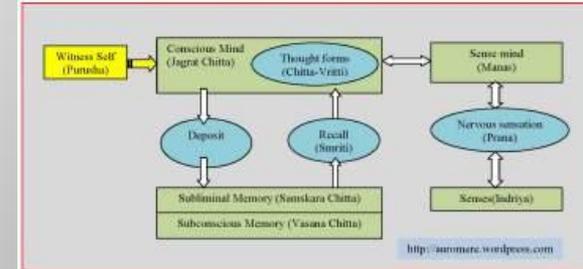
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## Potent frameworks to produce mental technologies

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?
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  - 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

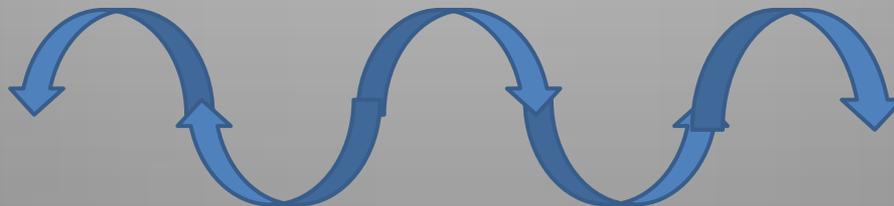
- ◇ Generation of new forms, species etc.
- ◇ Generation of inner realities, conceptions, models, theories and cultures.

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!