

# Indian & Western Philosophy – How it can help Software Engineers?

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# Some uses of Philosophy

- A source to broaden our Intellectual horizon
- Every man has a Philosophy. Studying it, makes us to align our beliefs with some kind of standard. Helps communicate ideas better
- A Grammar for Thought (If we are looking for one)
- A great Emotional Shock Absorber
- Character Transformation through deliberate study of Philosophy
- Ability to articulate complicated and deep topics succinctly
- Study of Philosophy will make you a universal citizen.
- Ability to Study vast amount of topics
- “Unusual effectiveness” of Philosophy in Professional Life

# Some Key ideas of Western Philosophy

- Epochs
  - Greek, Medieval, Renaissance (Modern), Post-Modern
- Branches
  - Metaphysics, Epistemology, Ethics, Aesthetics, Politics, Logic
- Fundamental Questions
  - Who am I?, What Can I Know?, What Should I do?
- Primary Methodology
  - Analytical, Reductionist
- Humanistic Traditions
  - Externalism,, Phenomenology ,Nihilism , Dialectical Materialism (Marxian)
- Philosophy of Science Methods
  - Induction, Deduction ,Abduction,Falsificationism

# Some Key Ideas of Indian Philosophy

- Vedas and Upanishads
  - Rig, Yajur, Sama, Atharva
  - Various Upanishads
- Main Schools
  - Heterodox (Veda not as a Testimony) , Orthodox (Veda as Testimony)
- Three Hetrodox Schools
  - Carvaka , Jaina , Budhist Traditions
- Six Orthodox Schools (Darshana)
  - {Nyaya, Vaisesika} , {Samkhya, Yoga}, {Mimamsa, Vedanta}
- Philosophical Methods
  - Holism and Intuitionistic
- Method of Philosophical Arguments ( a form of Dialectic)
  - Purva Paksha (apriori) , Khantana (Refutations), Uttara Paksha (Conclusion)



# Philosophy in My Professional Life (Software Engineering)

- Reductionism as a Tool for Learning Vast Amount of Subjects
  - Regular Expressions, SQL Query, Functional Programming are variants of Closure (Reductionism)
  - Design of Primitives while writing Software Engines
  - Turing Machine , Lambda Calculus and Predicate Logic as foundations for Paradigms
- KISS Principle is a solution for “Problem of Induction”
  - Party Idiom in Entity Management (Customer, Vendor, Government body, NGOs)
  - Define a Core, Rest should be Deduction from the Core
  - Functional Core of a Functional Programming language
- Philosophical Ontology
  - Ontology is study of what exists out there. Useful for defining Vocabulary for Systems and Implementation of Domain Specific Languages
  - Wrote a Paper titled, “An Ontology and Its Realization on Mobile Devices – a HealthCare Case Study)
  - Software Design and Enterprise Ontology
- Entity Archetypes as a structuring mechanism ( Arlow/Nuestadt)
- Holism for Designing UX
- Limitations of Analytics ( Analytic Reduction vs Systems Thinking)
- Defined a Pattern for converting an Arbitrary hierarchy-oriented OOP program to Rx Programming model based on the Advaita Vedanta Concept of “SAT-CHIT-ANANDA”

# Appendix

# Carvaka System

- Also called Lokayata (Earthly Philosophy)
- Rejects Vedas, Karma, Moksha , Immortality of Self
- Direct Perception as Source of Knowledge ( Anubhava or Experience). Rejects Anumana, Upamana and Shabd as source of knowledge
- Everything in this world is some kind of Accident ( Akasmika Vada or Accidentalism)
- A Materialist School of Thought
- Make merry in this world. Tomorrow, Does it Exist?
- Some Believe, Kautilya's Arthashastra could be written in a Carvaka context

# Nyaya Philosophy

- Analysis of Logic and Epistemology
- Detailed work on Anumana (“Inference”)
- Right knowledge for “Liberation” ( from suffering)
- perception (pratyaksha), inference (anumana), comparison (upamana), and sound/testimony (shabda) are source of valid knowledge
- Invalid knowledge involves memory, doubt, error, and hypothetical argument.
- Aligned with Vaisheshika (Merged with it)
- Cause as an invariable and un-conditional precedence for effect. ( an effect does not pre-exist in it’s cause)
- Three kinds of causes
  - Material (Inherent) cause - The substance out of which an effect is produced
  - Non-Inherent cause - helps in the production of a cause,
  - Efficient cause - the power that helps the material cause produce the effect
- God is not the material cause of the universe.



# Samkhya System

- A Dualistic Philosophy – Matter (Prakriti) and Eternal Spirit (Purusha)
- Right knowledge comes from separation of Purusha and Prakriti
- Four higher level functions of Purusha are
  - Buddhi (“consciousness”)
  - Ahamkara (“I-consciousness”)
  - Manas (“Mind”)
  - Prana (“Breath”)
- Infinite Purusha and Prakriti is enough (No God). Prakriti springs to action when Purusha gets connected to it.
- Purusha impinges on Prakriti to form Consciousness (Budhi) and next to evolve is Ahamkara, which deludes Purusha to think, Ego is the center of its Objective Existence.
- Ahmkara can be divided into
  - Five Gross Elements (Water, Air, Space, Earth , Fire) - Tanmatra
  - Five Fine Elements (Touch, Sound , Sight, Taste, Smell) - Mahabuthas
  - Five Organs of Perception ( Skin,Ear,Eyes, Tongue, Nose) - Janendriya
  - Five Organs of Activity (Speak, Grasp, Move, Procreate,Evacuate) - Karmendriyas
  - Mind ( Controller of Senses)
- Three Primal Qualities of Matter (Gunas) make up prakirti
  - Tamas (Obscurity, Ignorance,Inertia) – Darkness (InAction)
  - Rajas ( Activity, Passion, Intensivity) - passion (Action – but, fails often)
  - Satvik ( , Purity, Dispassion, Light ) – Goodness (Equanimity)

# The 24 Tattvas or Evolutes of Nature

PRAKRITI  
BUDDHI  
AHAM  
MANAS

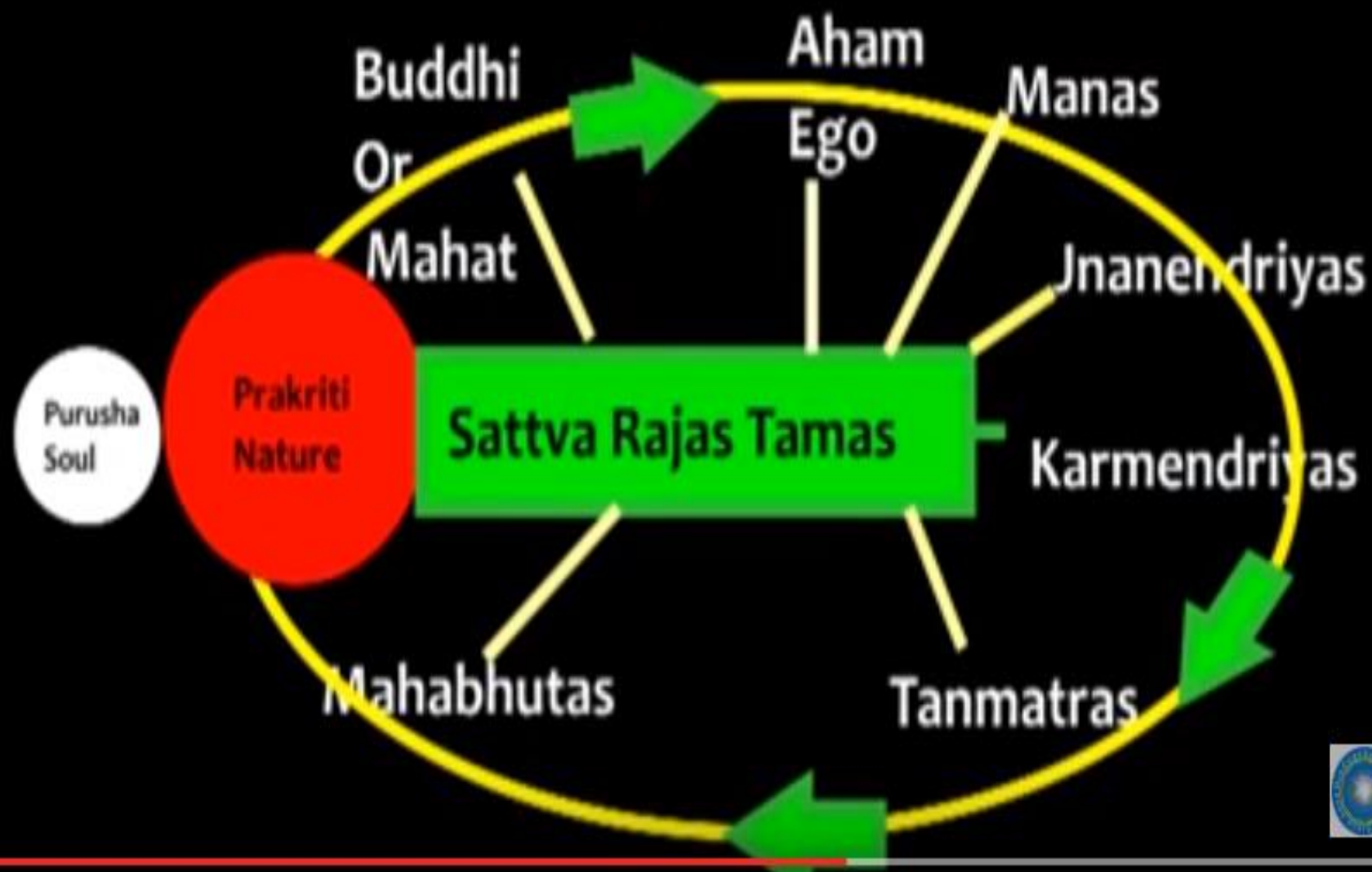


5 JNAENDRIYAS  
5 KARMENDRIYAS  
5 TANMATRAS  
5 MAHABHUTAS

The gunas are pervasive in all the tattvas and hence not counted separately



# Summary of Evolution According to Samkhya Yoga



# Thank You

- Questions?