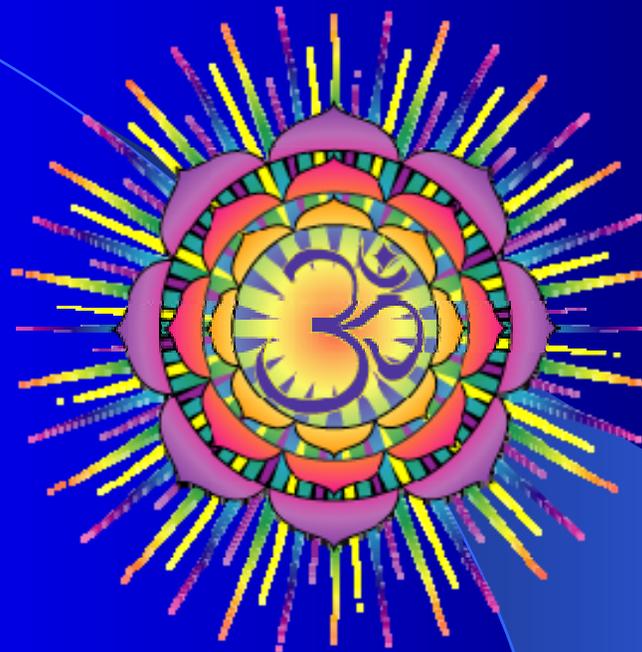
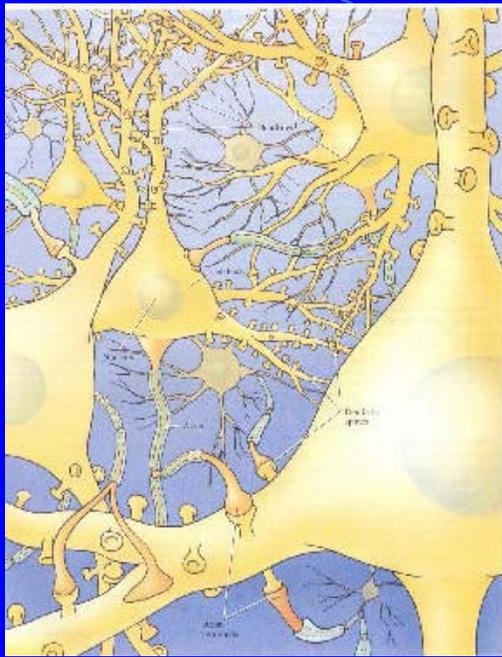


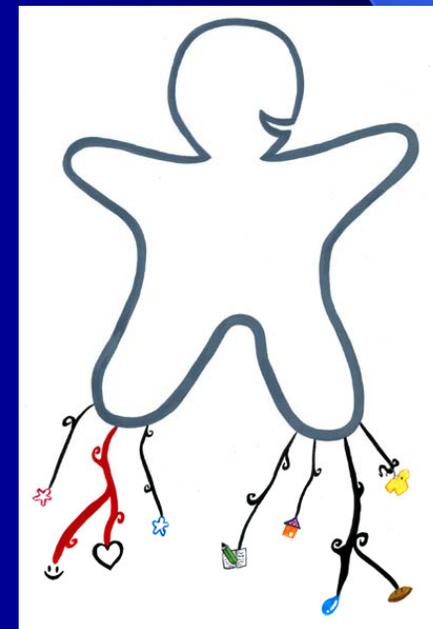
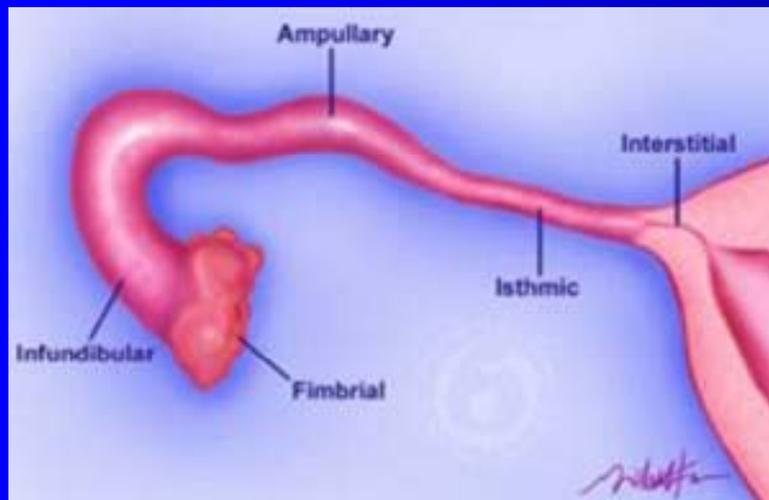
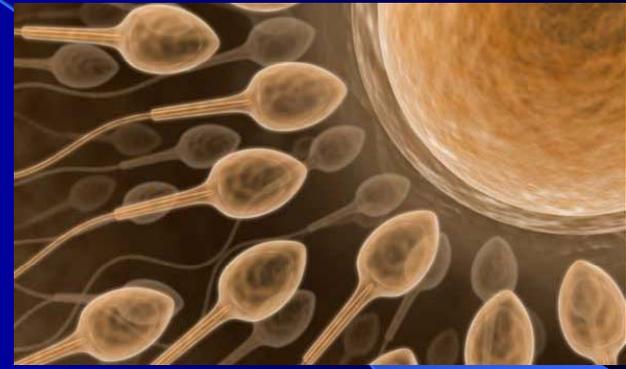
# The Role Of Consciousness In The Cold Cosmos



V. V. Raman  
Dartmouth August 2008

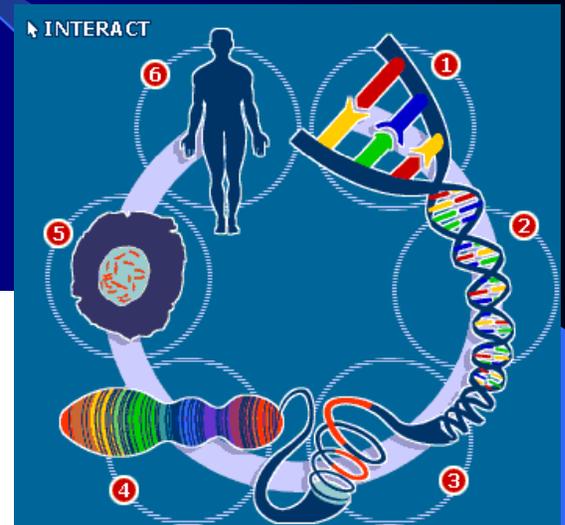
# Genesis of the individual

From the merger of a microscopic sperm and an egg in the darkness of the fallopian tube arises an entity...



# Acquisition of Individuality

which gradually acquires self-awareness and an identity all its own.



# Unlike other phenomena

We can't dismiss it as another emergence like thunder, volcano or wing from mutations.



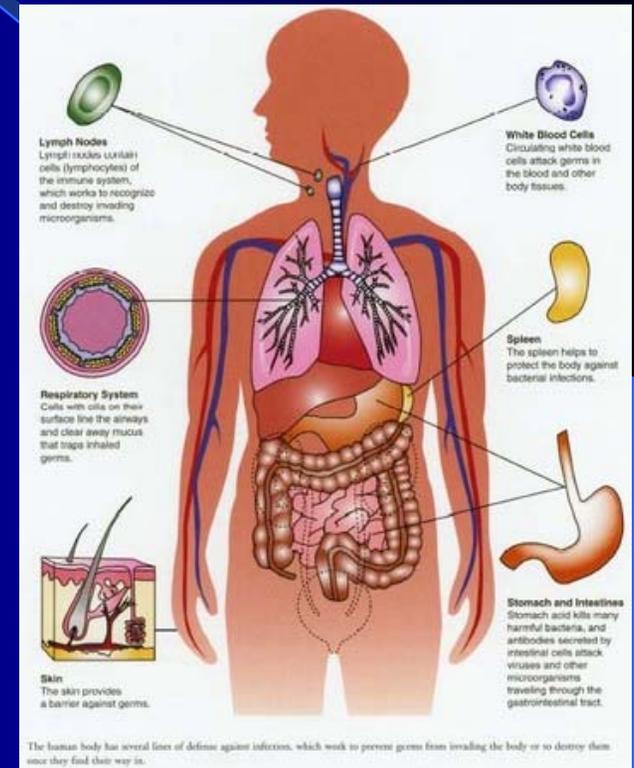
# Love and Laughter, Grief and Sorrow

For some all this is  
mere biochemistry.



# Complexity of Human Body

The Self is present amidst a huge environment of molecules and organisms.



# Biochemistry of Personhood



Wellcome Images

Artist: Chris Nurse, "Brain and perception"  
Wellcome Library, London

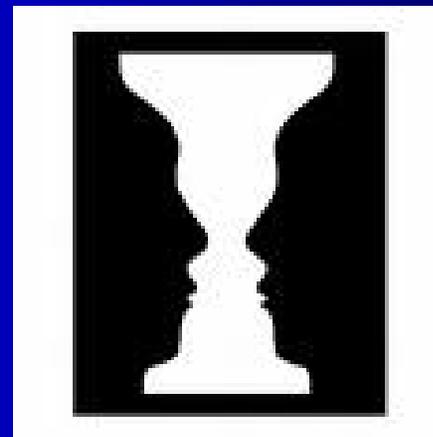
- One cannot deny the biochemical basis of personhood.

# Facts and truths

Facts are elements in the external world. Truths are interpretations of facts in the *hypercomplex* domain of thoughts and ideas.



A vase or two faces?



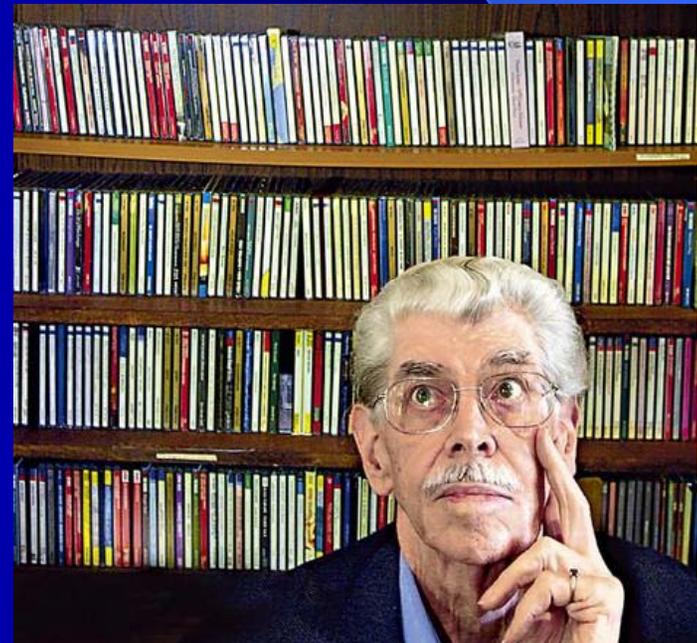
# Knowledge

Knowledge is a  
systematized  
range of  
facts.



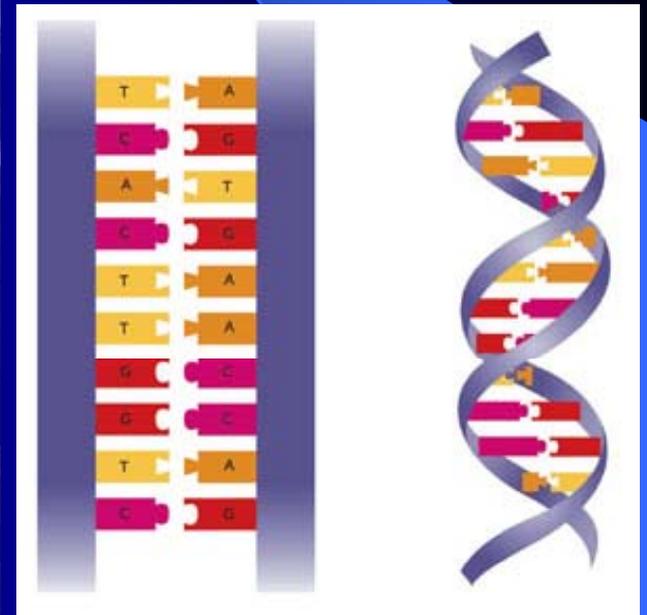
# Information

Information is knowledge that is useful in determining course of action.



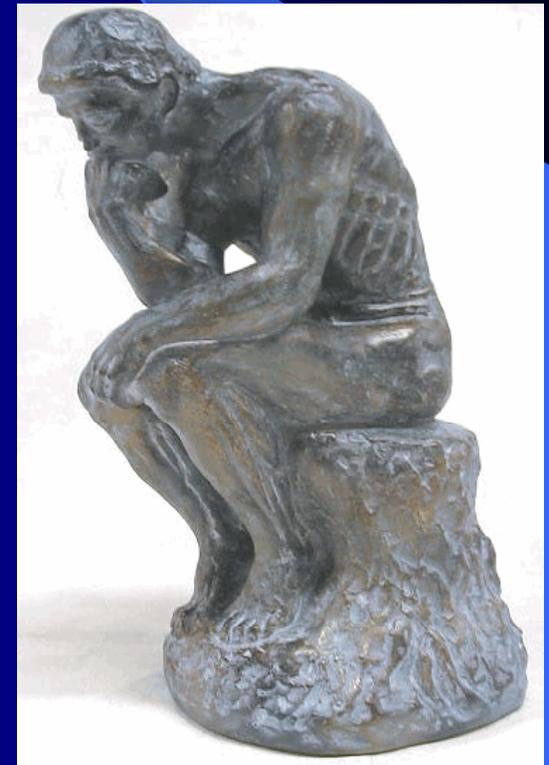
# First Order Information

The blind laws of physics leading to basic biology provide what may be called First Order Information.



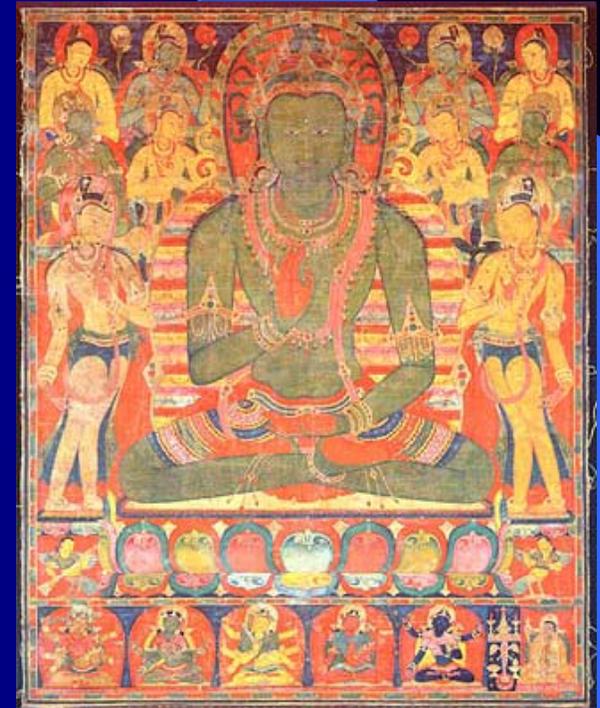
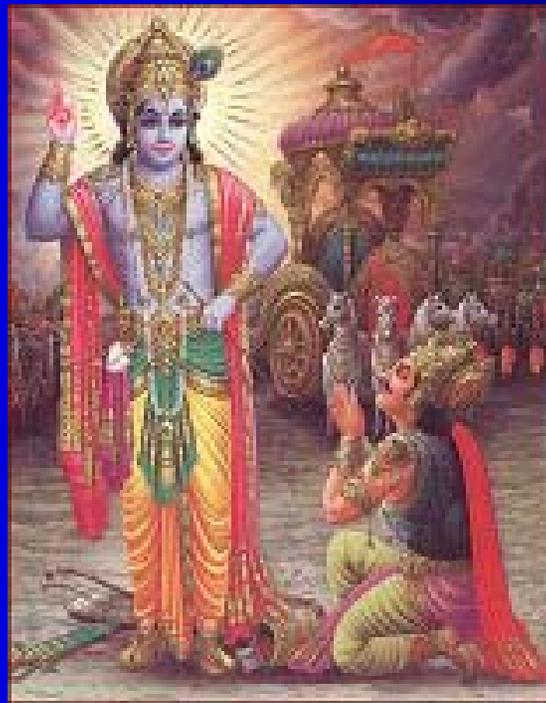
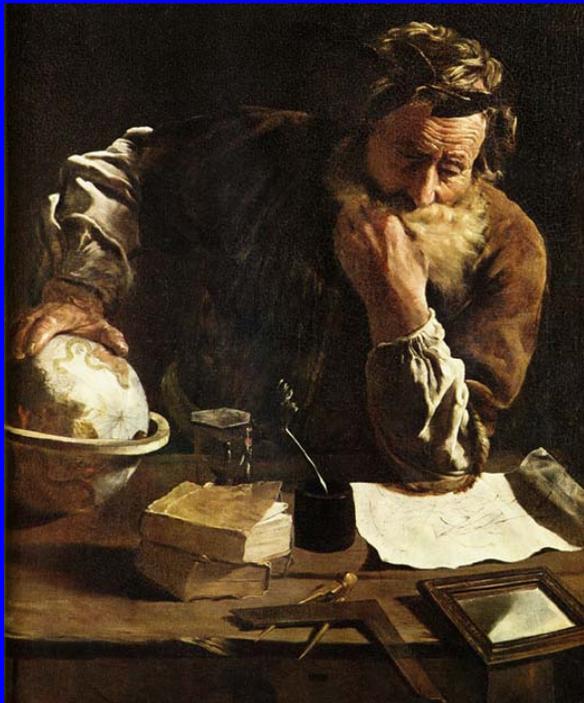
# Second Order Information

Second order info gives experience of joy and sorrow, and enables reflection (self-awareness).



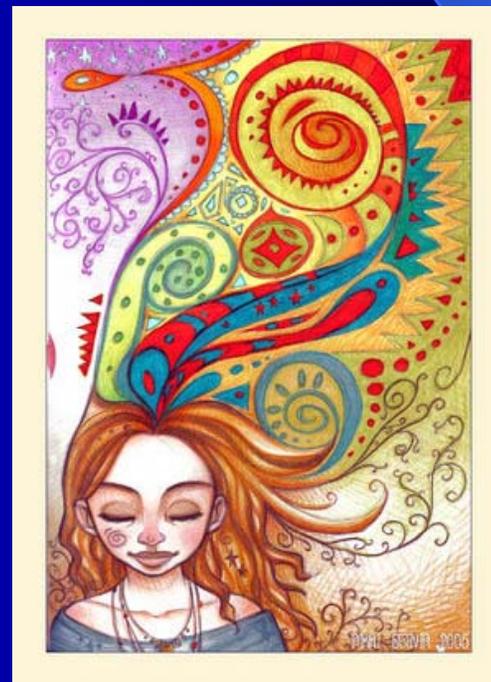
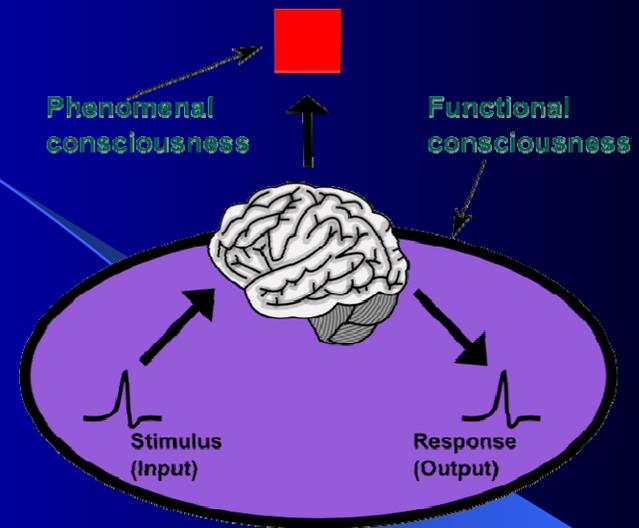
# Third Order Information

Revealed truths (scientific/religious) may be regarded as third order information.



# Consciousness

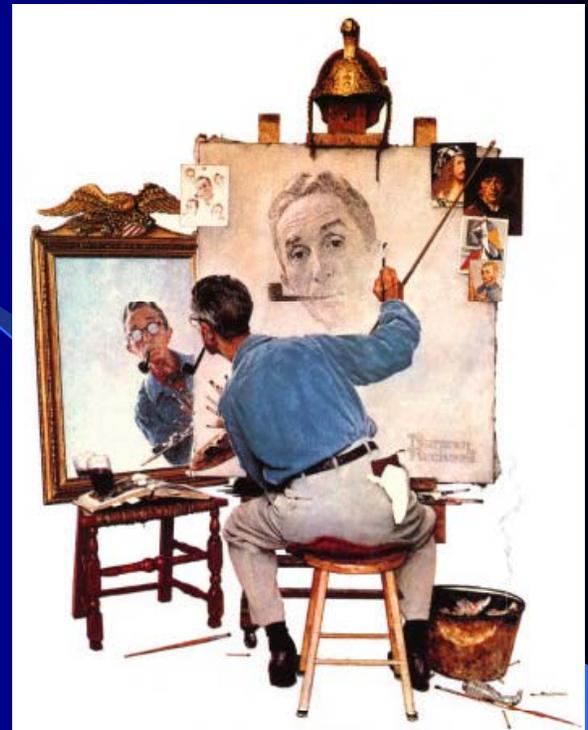
Consciousness is awareness of knowledge and information.



# The Self

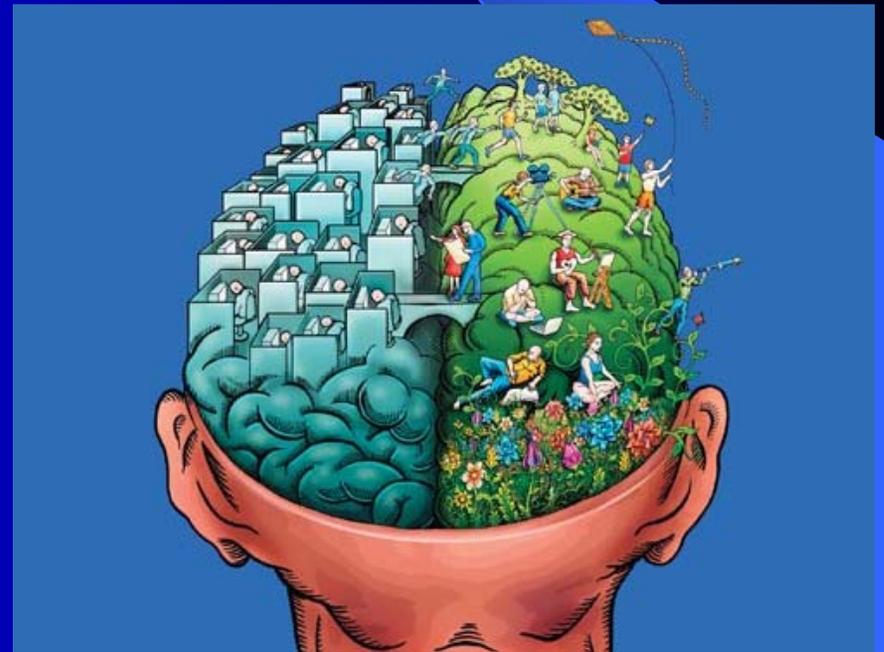
The self is a focused center where consciousness resides in the universe.

Mysticism  
Is breaking through the barrier of the self.



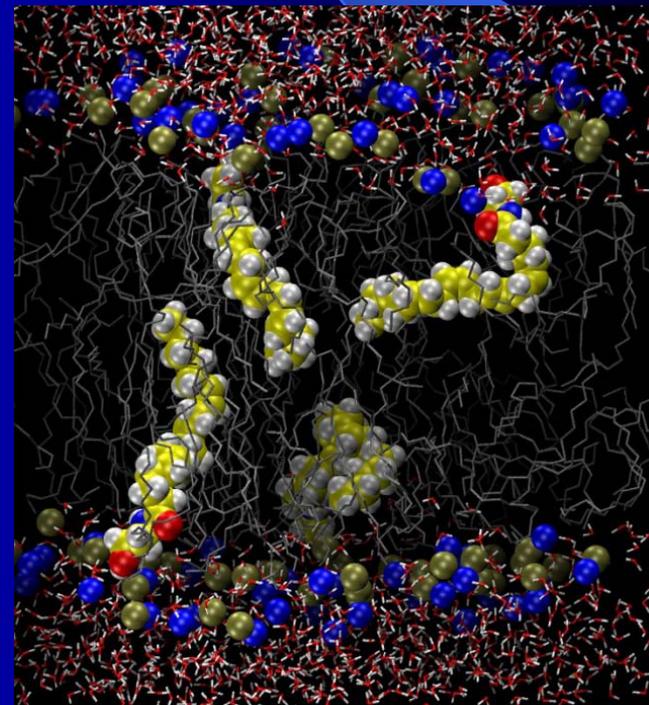
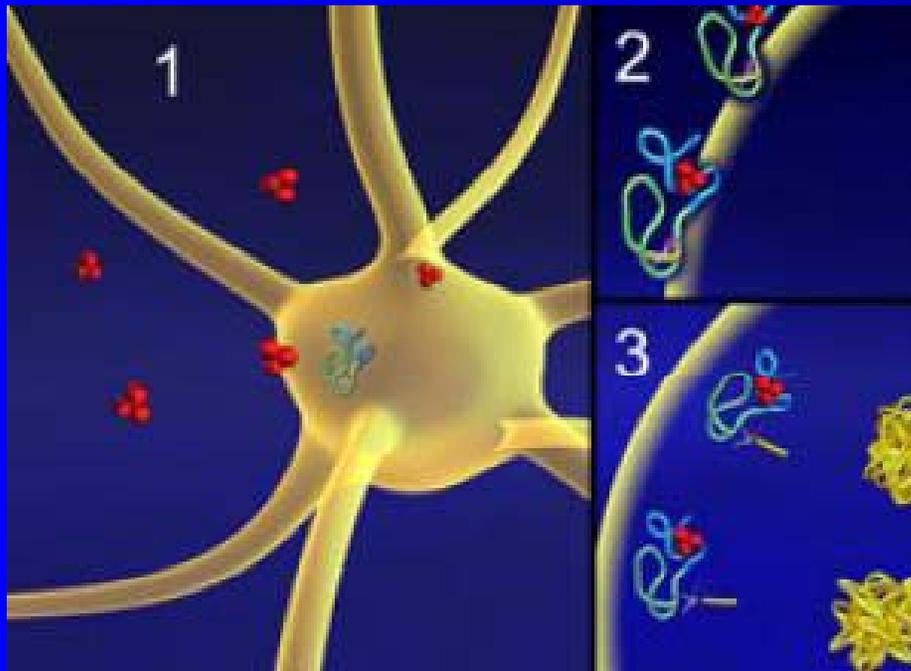
# According to Current Science

Consciousness is an emergent property of the brain.



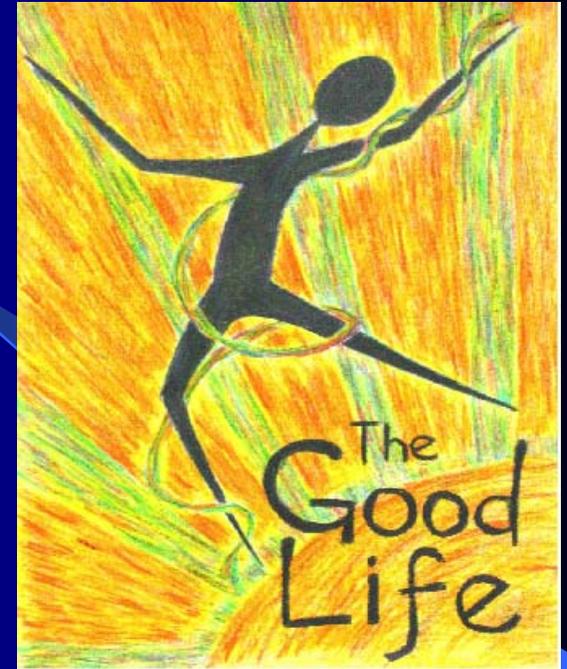
# Brain is material

The brain is a complex of atoms and fatty molecules (matter).



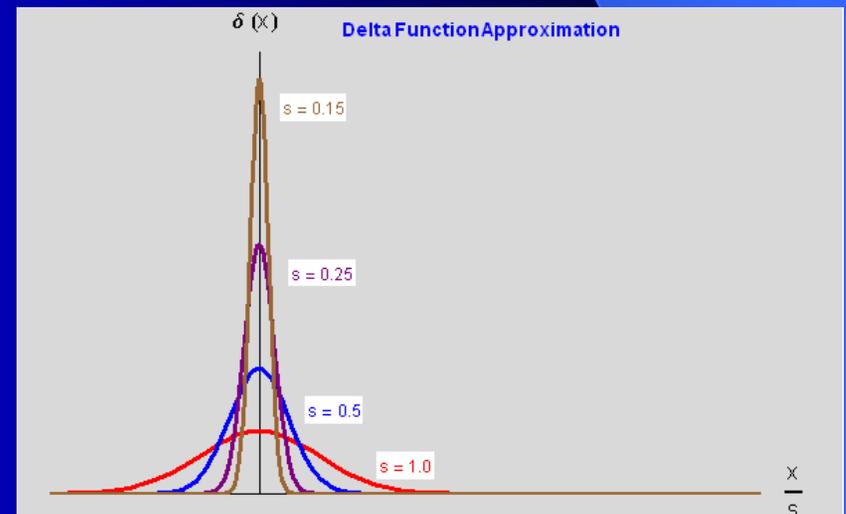
# Materialist view

Since consciousness is an aspect of the brain, it has no spiritual significance. Life is complex biochemistry,



# Resulting Perspective

This means that consciousness is an anomaly in the universe. It will last for as long as life lasts.



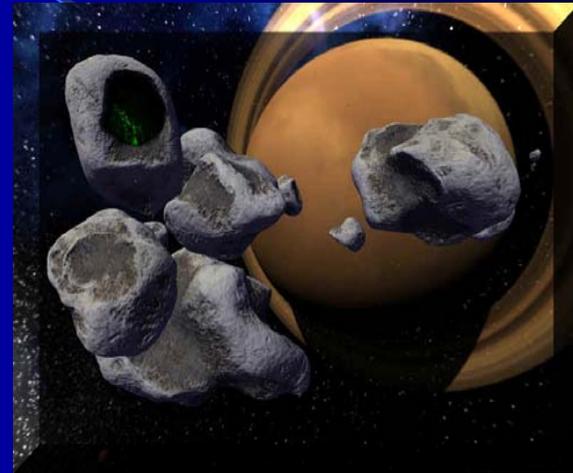
# Anthropic Insignificance - Size

In sheer size we are insignificant.

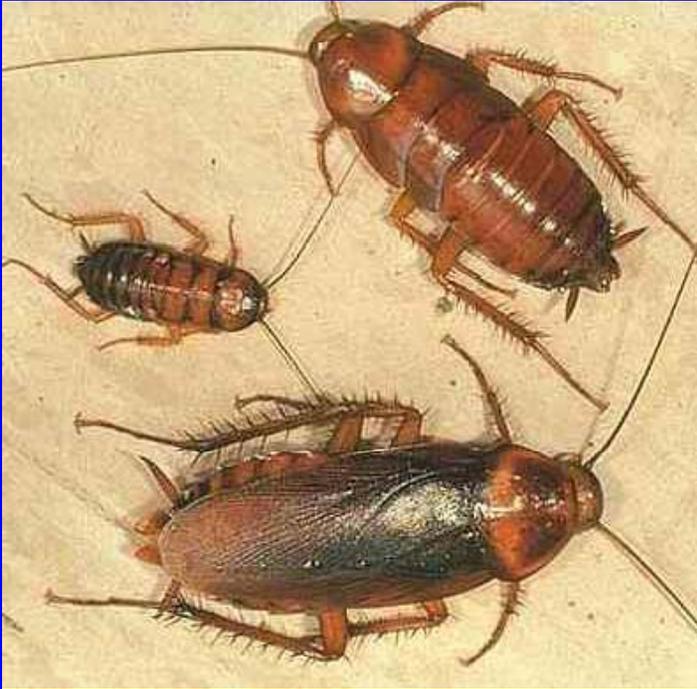


# Anthropic Insignificance – Physical Power

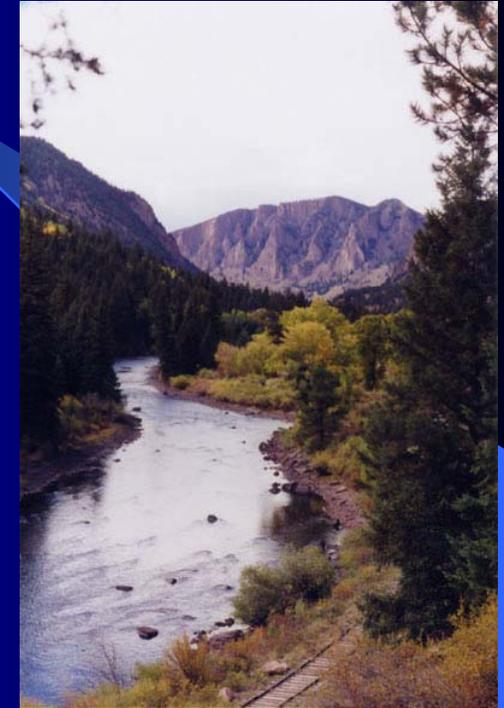
The power of Nature is far greater than all our technologies.



# Anthropic Insignificance - 3



Our longevity is  
not as great.



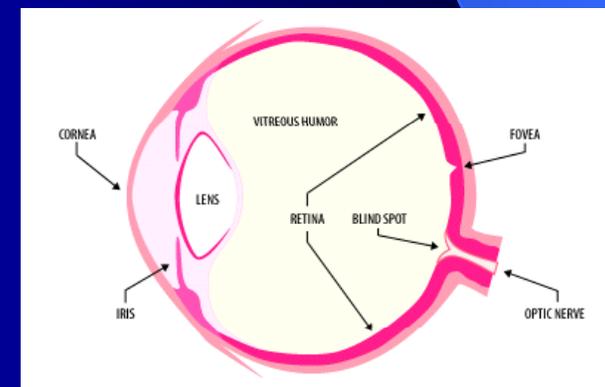
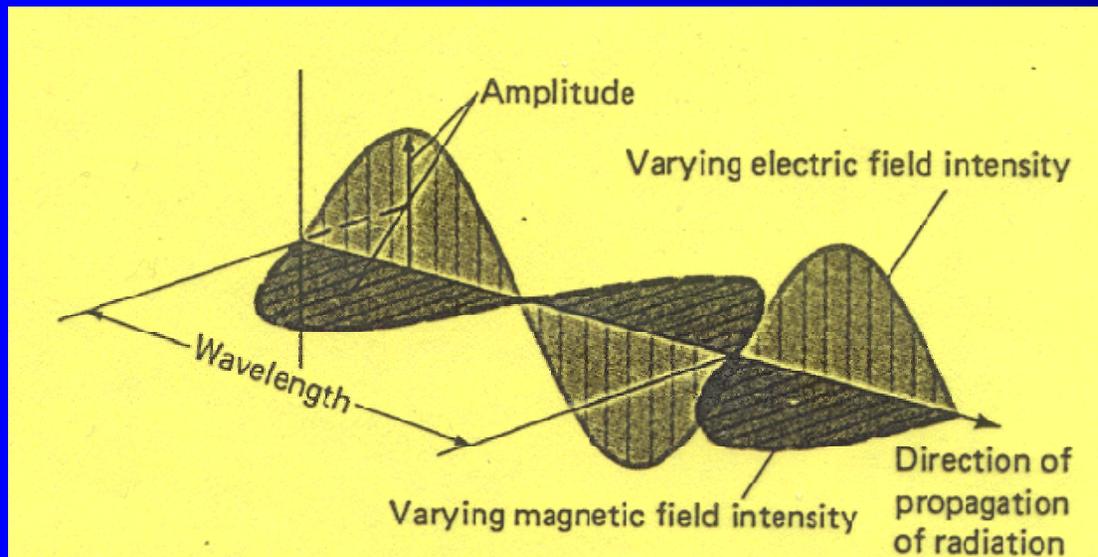
# Purusha & Prakriti

Without  
consciousness the  
universe would be  
like a stage where  
there is action,  
but in an empty  
auditorium



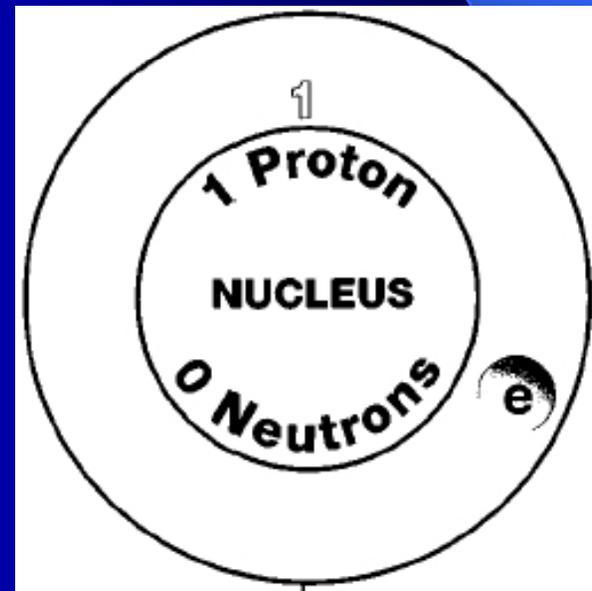
# An Analogy

Color is also associated with the brain.



# Is Color an intrinsic aspect of the Universe?

Color as a sophisticated recognition of aspects of the physical world that only a complex brain can become aware of.



# Anthropic Uniqueness: Perception of Beauty

Without humans there would be no patterns in butterflies, golden sunset, fragrance or taste in honey.



# Anthropic Uniqueness: Art

There would be no art of sculpture.



# Anthropic Uniqueness: Music and Mathematics

Without humans there would be no Music  
or Mathematics.

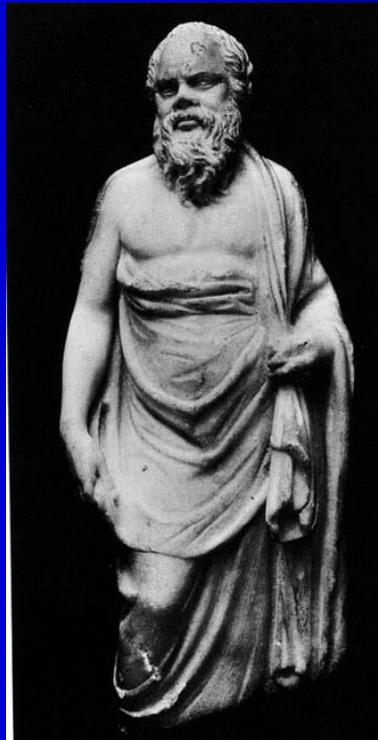
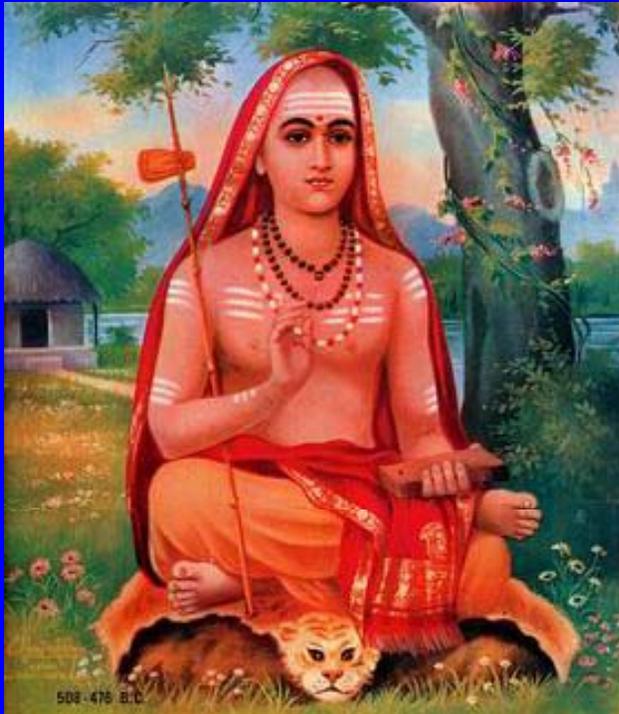


$$\exp(i\pi) + 1 = 0$$



# Anthropic Uniqueness

Without humans there can be no philosophy.

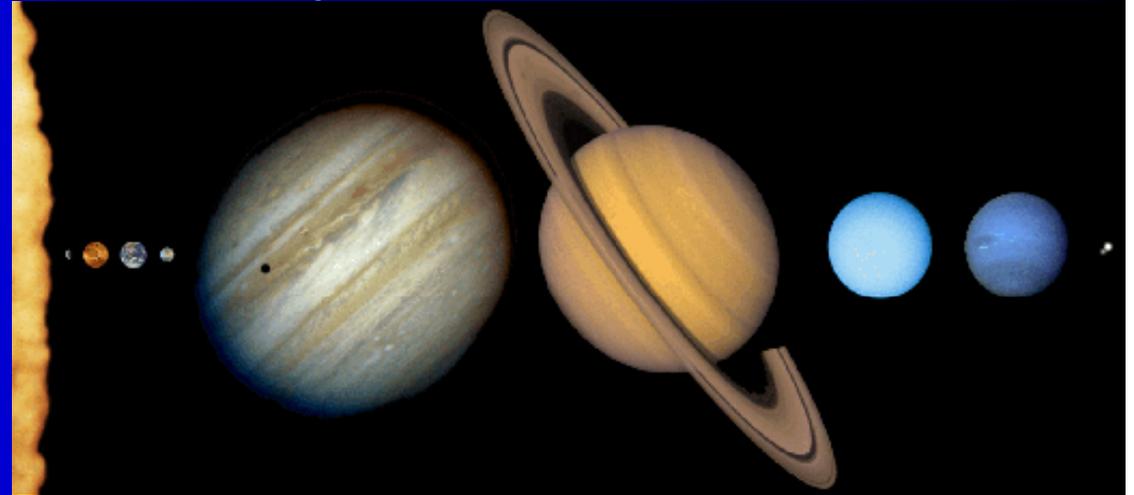


# Anthropic Uniqueness- 5

Without humans there would be no science or technology.



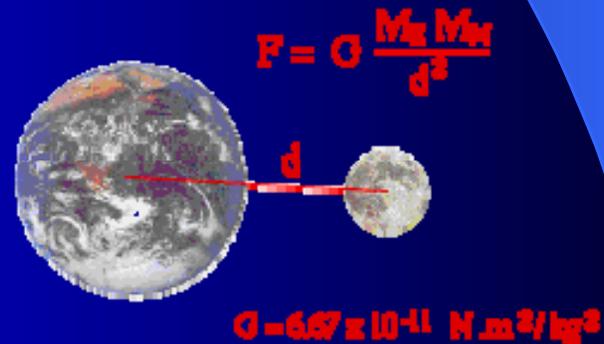
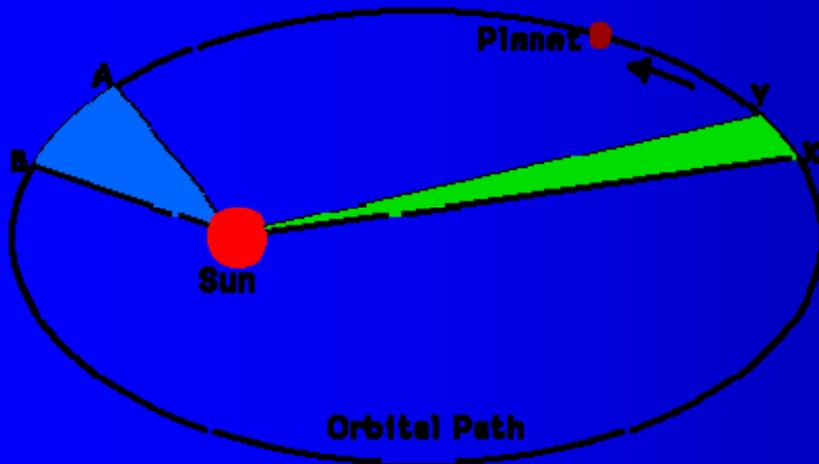
# Impact on the Universe



Planets now studied  
from here.  
Non-stellar nuclear  
fusion

# Awareness Of Intangible Aspects

Consciousness is the map on which the subtle aspects of the physical universe (mathematics, music, laws) become manifest.



# Brahman & Universal Consciousness

*Awareness of  
knowledge -  
systems and  
perspectives.*

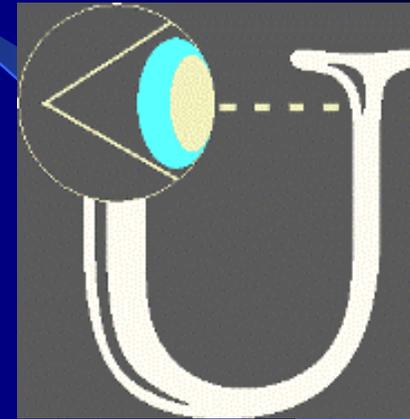




# Cosmic awareness

Could it be that the universe is aware of itself? That there is a Cosmic Self?

Who knows?



# The Human Brain as a Detector

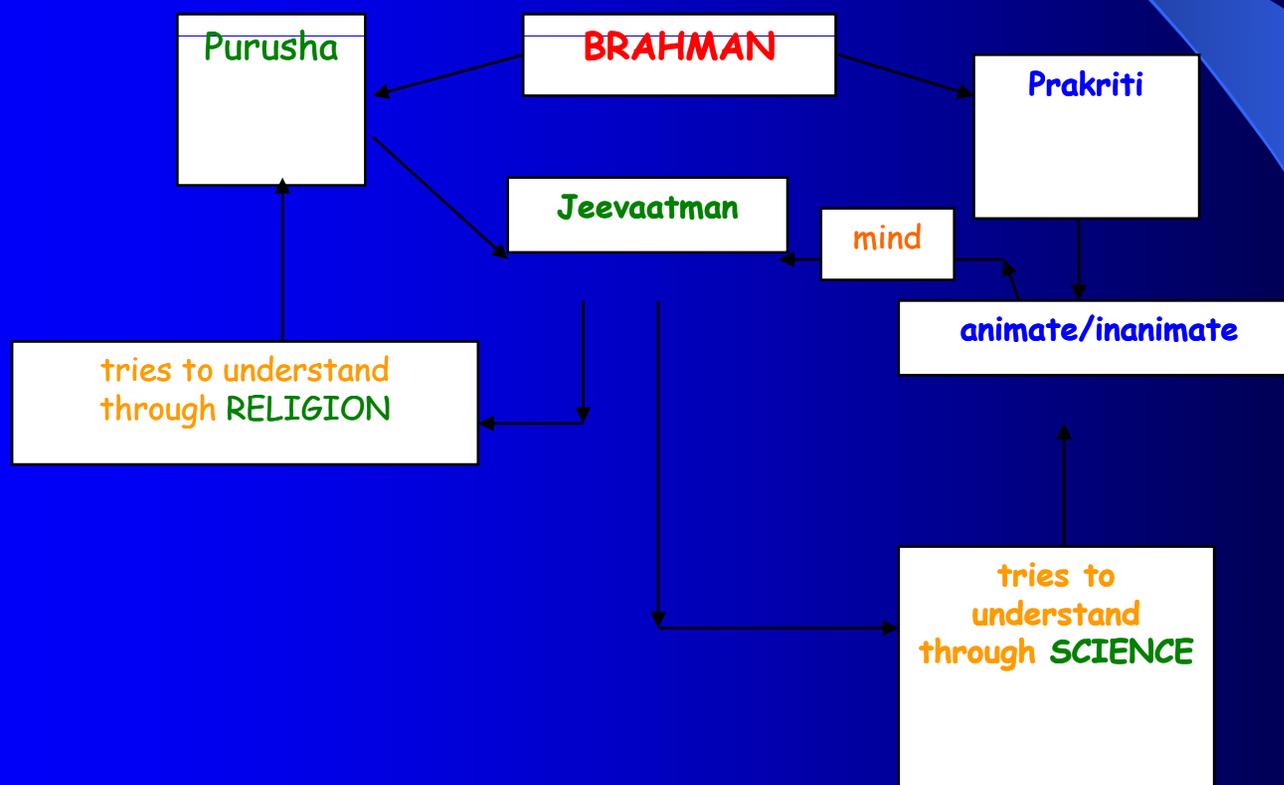


Perhaps the brain acts as a receiver of info-bits from the universe.



# Hindu Vision of Consciousness

Brahman is the ultimate root of the entire universe, past and present. Our individual conscious is its pale reflection



## Transcendence

Beauty and colors so pleasing to the eye,  
Stars and planets in the dark sky,  
The ratio in the circle denoted by pi,  
The surging of the seas and the marvel of the fly

The splendor of the flowers that blossom and die:  
All these were there as eons rolled by.  
But the plants and the trees, the beasts and the  
birds  
Described not these in rhymes or in words.

Nature and her laws were occult in the dark,  
Till consciousness came, and lit them with its spark.  
How did this happen, for what purpose and whence?  
Could the answer for this be in Transcendence?

