

# The Tyranny of the Prefrontal Cortex

Presented by  
Jeremy Lent

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- We make astonishing advances in technology, yet our world is careening ever faster out of control
- People everywhere are searching for spiritual meaning to their lives

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- So fundamental to our lives that we don't even realize it exists
- The *tyranny of the prefrontal cortex (pfc)* over other aspects of our consciousness
- Acknowledging this tyranny is the first step towards re-orienting our pfc towards a more integrated role

# The pfc mediates those parts of our cognition that are uniquely human

- Symbolic thought
- Conceptualizing
- Planning
- Creating abstractions

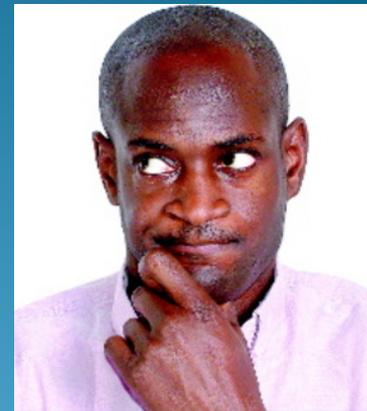


# The pfc mediates those parts of our cognition that are uniquely human

- Symbolic thought
- Conceptualizing
- Planning
- Creating abstractions
- Controlling our physiological drives
- Imposing meaning on things

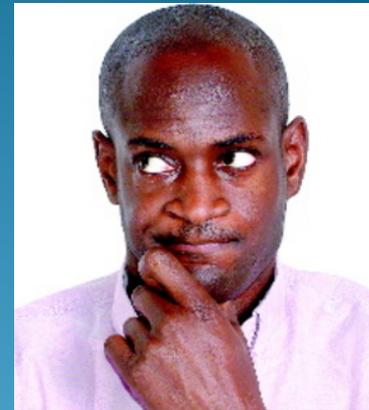


It's not the pfc itself but the conceptualizations that it mediates...



... which form a networked symbolic  
consciousness

# CULTURE



# A cognitive history of humanity

- Cultural evolution in terms of the pfc's increasing empowerment over human consciousness

# A cognitive history of humanity

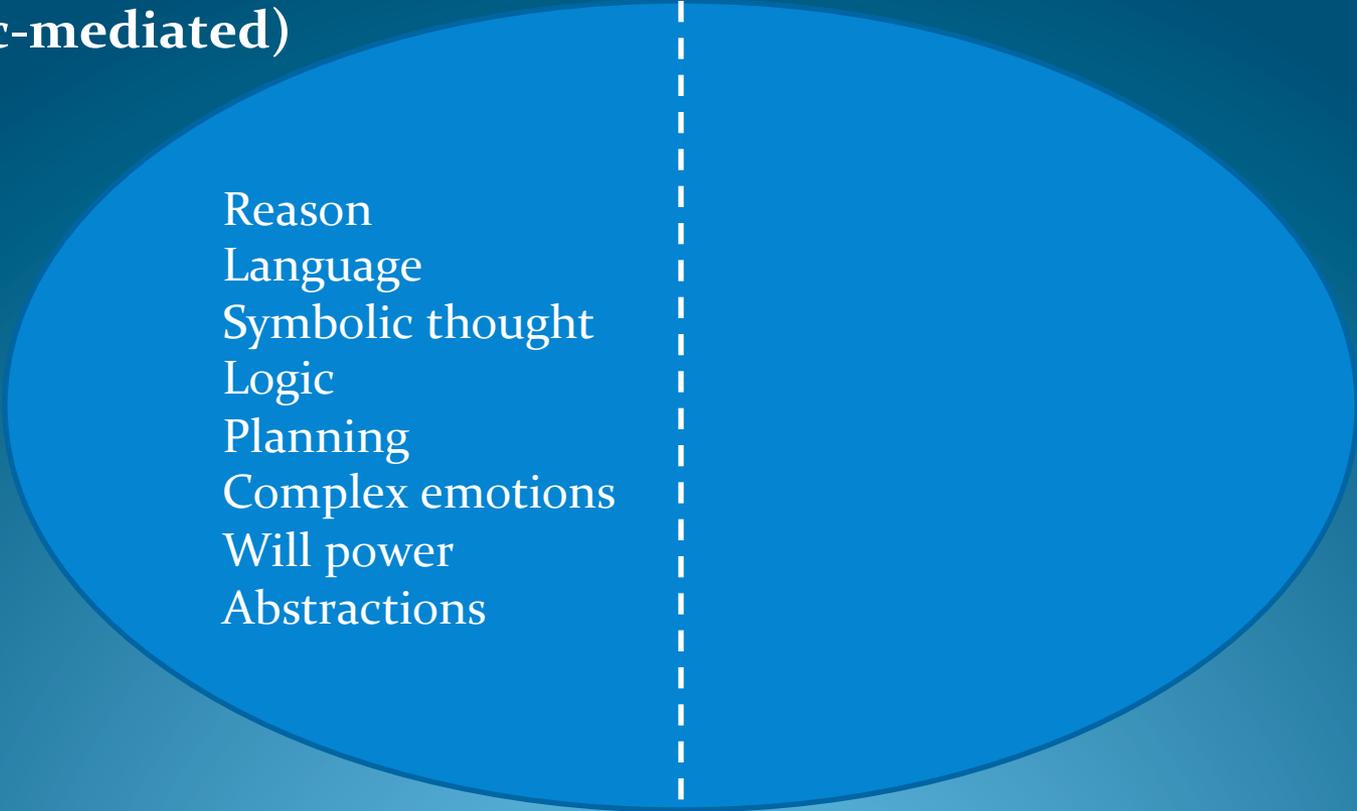
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# A cognitive history of humanity

- Cultural evolution in terms of the pfc's increasing empowerment over human consciousness
- Cognitive universals in prehistory
- Cultural specific divergences in past 2,500 years

# Humans are unique in having dual forms of consciousness

## Conceptual consciousness (pfc-mediated)



Reason  
Language  
Symbolic thought  
Logic  
Planning  
Complex emotions  
Will power  
Abstractions

# Humans are unique in having dual forms of consciousness

**Conceptual consciousness  
(pfc-mediated)**

Reason  
Language  
Symbolic thought  
Logic  
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Will power  
Abstractions

**Animate consciousness  
(common to mammals)**

Hunger  
Sexual urges  
Pain  
Fear  
Aggression  
Desire for warmth  
Caring for offspring

# Conceptual consciousness has been elevated over animate consciousness

**Conceptual  
consciousness  
(pfc-mediated)**

**Reason  
Abstraction  
Will power  
Transcendence**

*“Higher  
qualities”*

**Animate  
consciousness  
(common to  
mammals)**

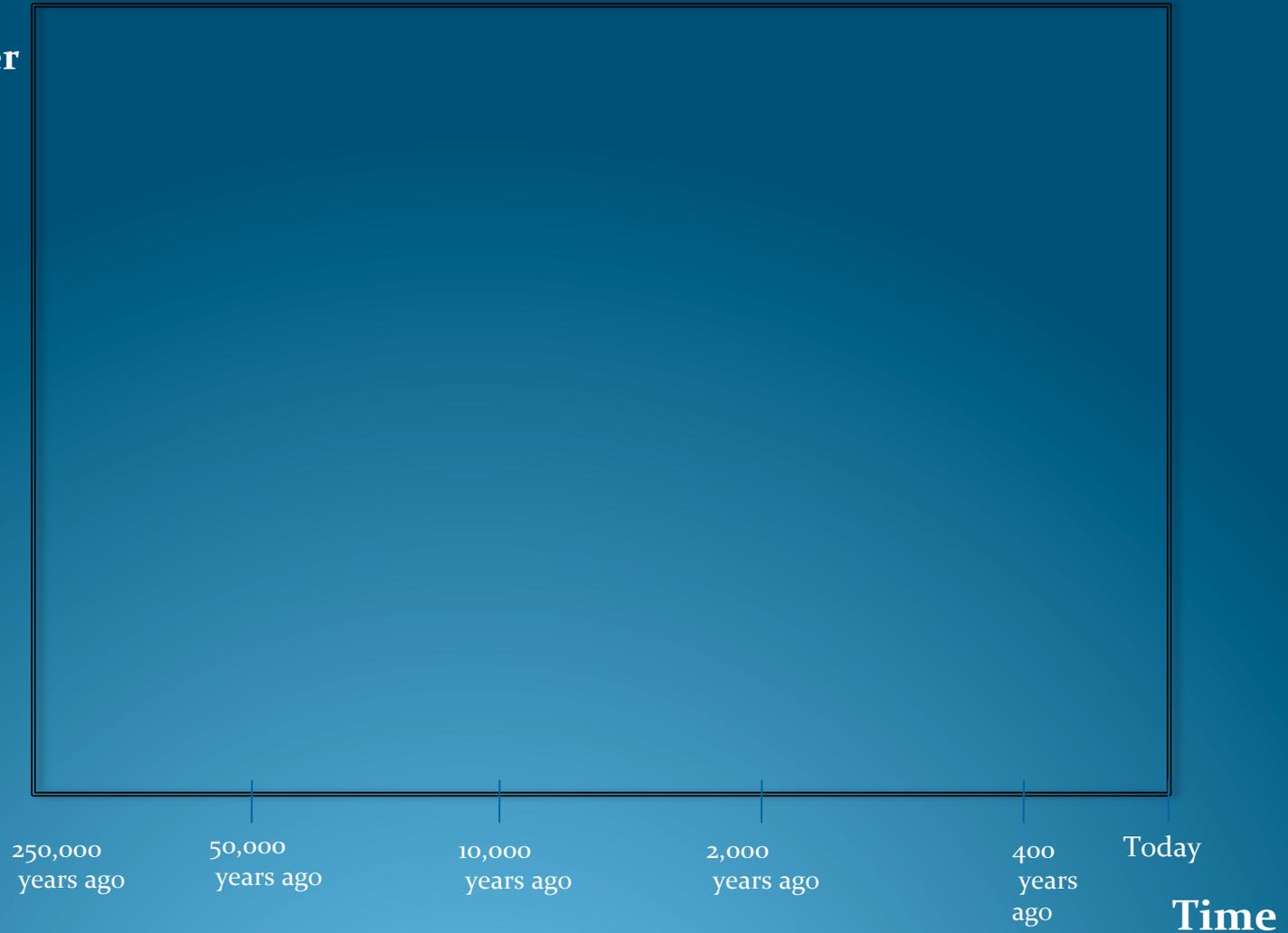
**Primary emotions  
Instincts  
Sexual drive**

*“Baser  
instincts”*



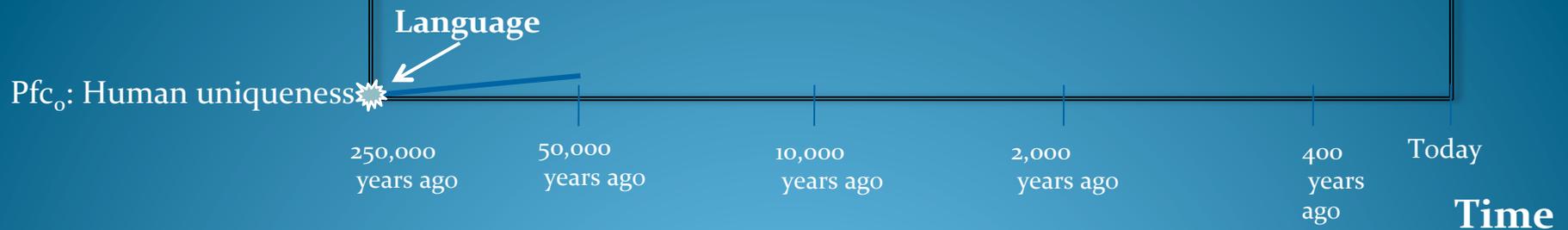
# Stages in the pfc's rise to tyranny

Level of pfc  
domination over  
consciousness



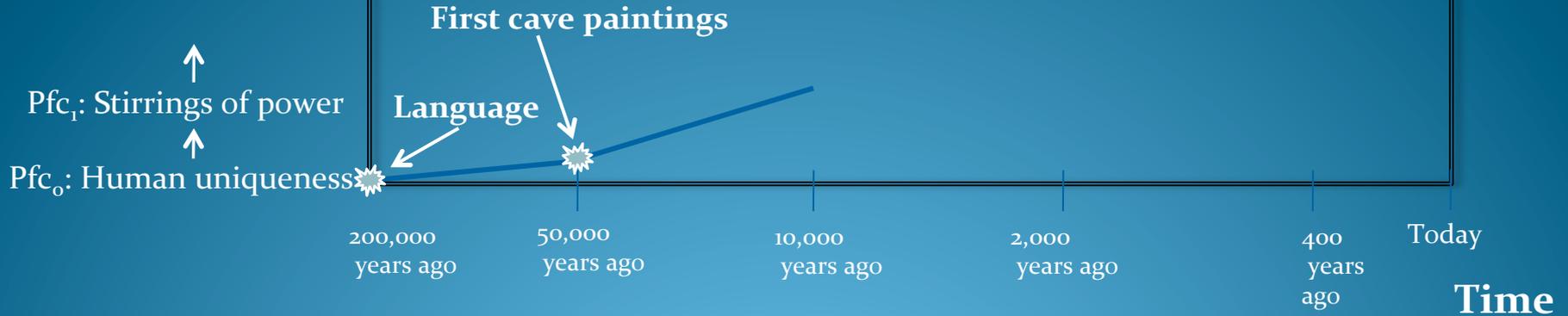
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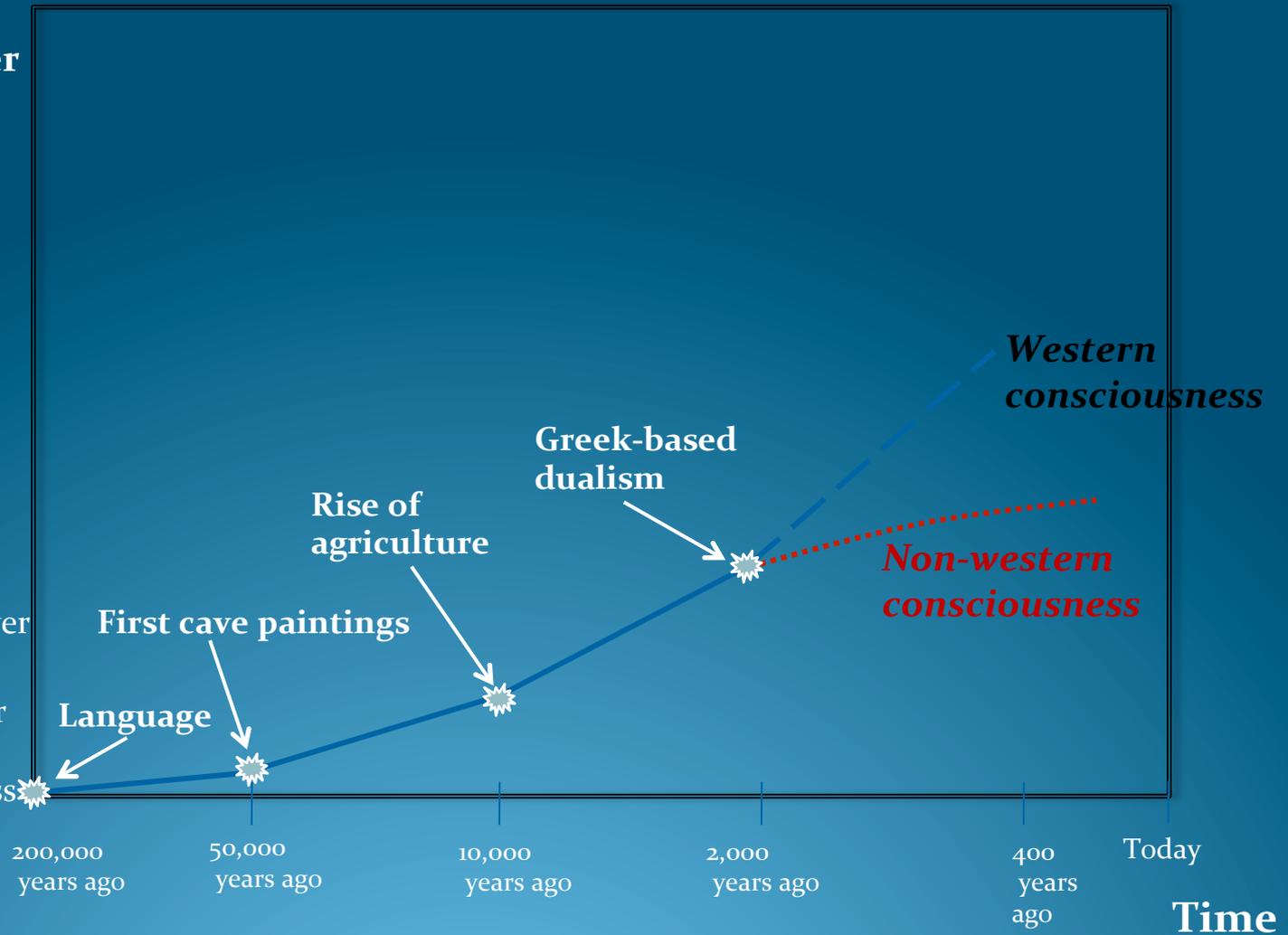
Pfc<sub>2</sub>: Ascendancy to power  
↑  
Pfc<sub>1</sub>: Stirrings of power  
↑  
Pfc<sub>0</sub>: Human uniqueness



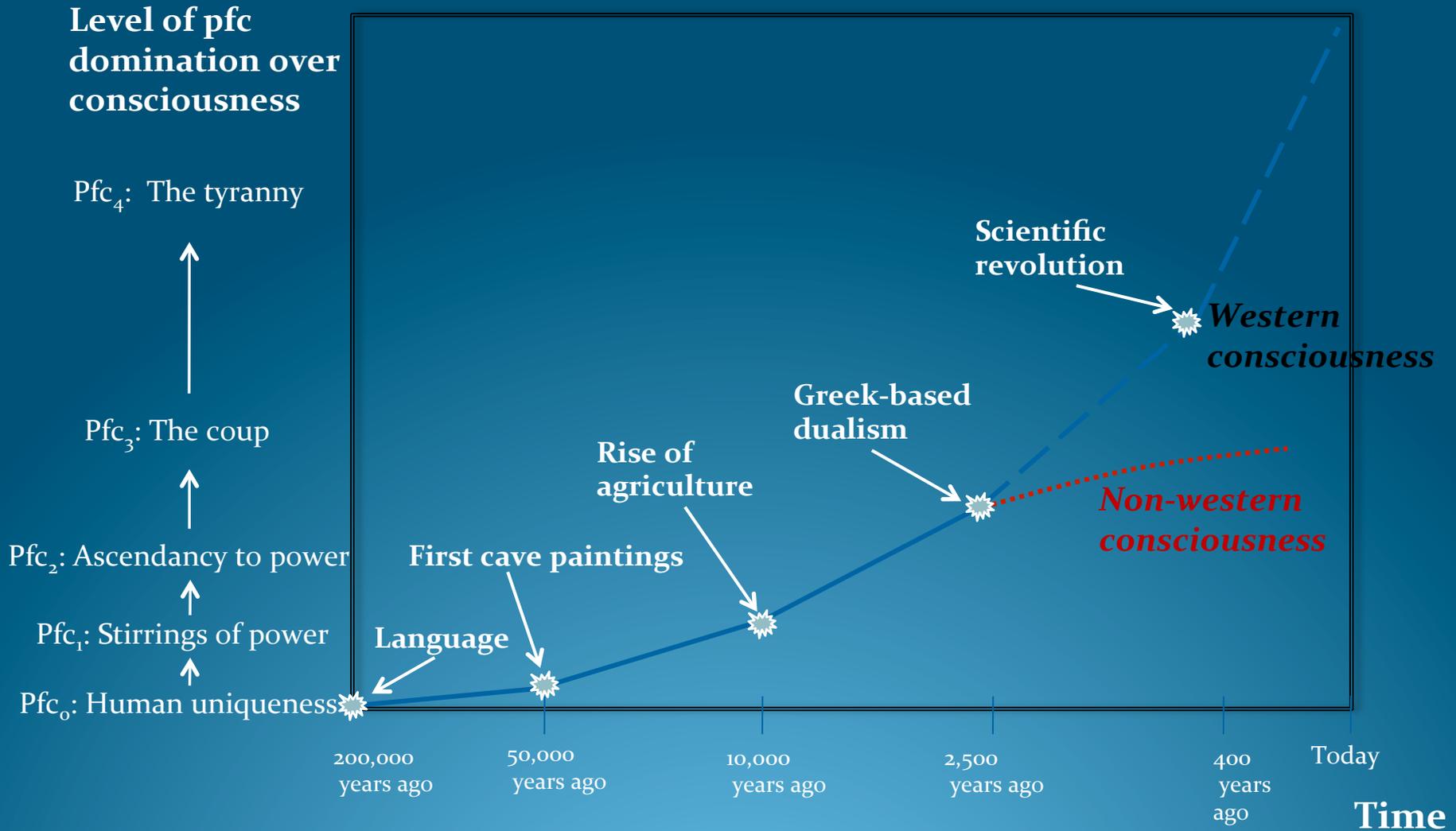
# Stages in the pfc's rise to tyranny

Level of pfc domination over consciousness

Pfc<sub>3</sub>: The coup  
↑  
Pfc<sub>2</sub>: Ascendancy to power  
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# Stages in the pfc's rise to tyranny



250,000 to 50,000  
years ago

# Pfc<sub>0</sub>: ground zero for pfc's power

- *The “social brain”* – evolving in large, complex groups

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- Weaving a net of symbols - *language*

# Pfc<sub>1</sub>: stirrings of power

50,000 – 10,000  
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- Revolution in *symbolic thought*
  - Upper Paleolithic cave art
  - Complex tools, music, sewing, ceramic kilns, long-distance trade



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- Revolution in *symbolic thought*
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  - Complex tools, music, sewing, ceramic kilns, long-distance trade
- Pfc's patterning instinct → rise of *mythic consciousness*
- *Anthropomorphism*: applying pfc agency to non-humans
- *Shamanism*: the pfc leaves the body as spirit



Beginning 10,000  
years ago

## Pfc<sub>2</sub>: ascendancy to power

- Domestication of animals and plants → *agriculture*
- Notions of *property* and land ownership
- *Hierarchies* and *inequalities*

Beginning 10,000  
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## Pfc<sub>2</sub>: ascendancy to power

- Domestication of animals and plants → *agriculture*
- Notions of *property* and land ownership
- *Hierarchies* and *inequalities*
- *Specialized skills*, e.g. writing, craftsmanship
- *Massive organized projects*: irrigation, temples
- *Large, complex societies* → cities and empires



Beginning 2,500  
years ago

# Pfc<sub>3</sub>: the coup

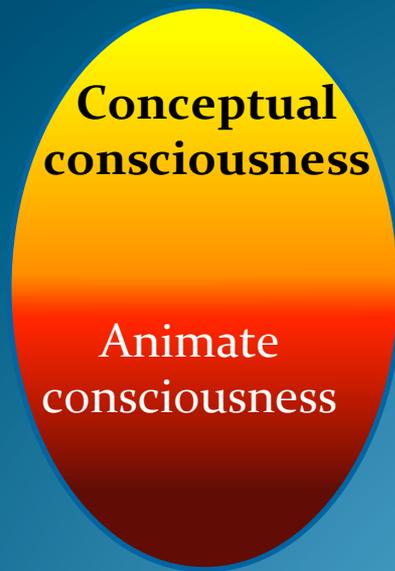
- Unique notion appeared in ancient Greece\*:
  - Abstract and eternal dimension of the universe is the source of value and meaning
  - Imprisoned in the body, an immortal human soul connects with this eternal value/meaning

\*A similar idea (from the same Proto-Indo-European source) of *atman/brahman* appeared around the same time in Vedic civilization

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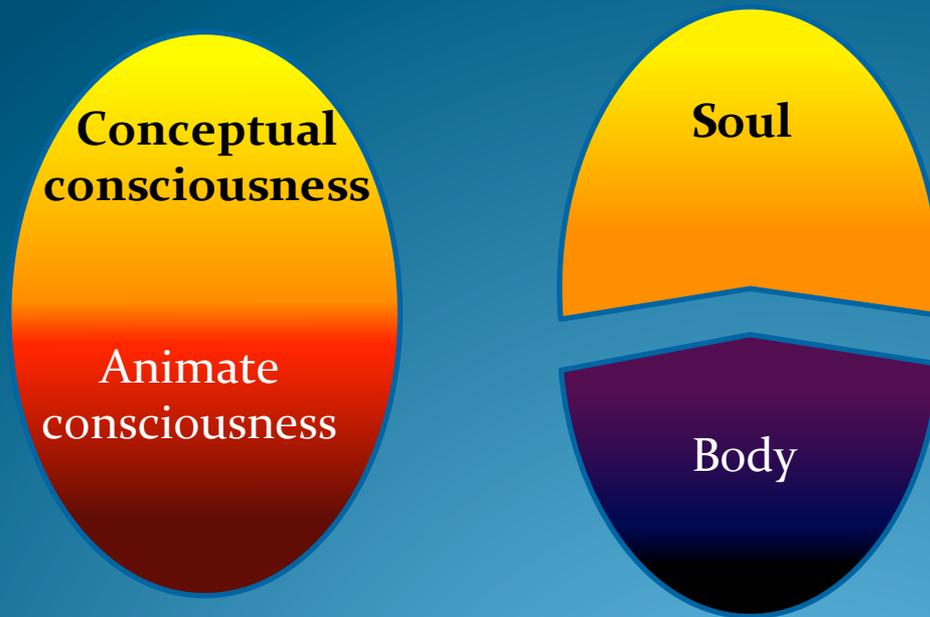


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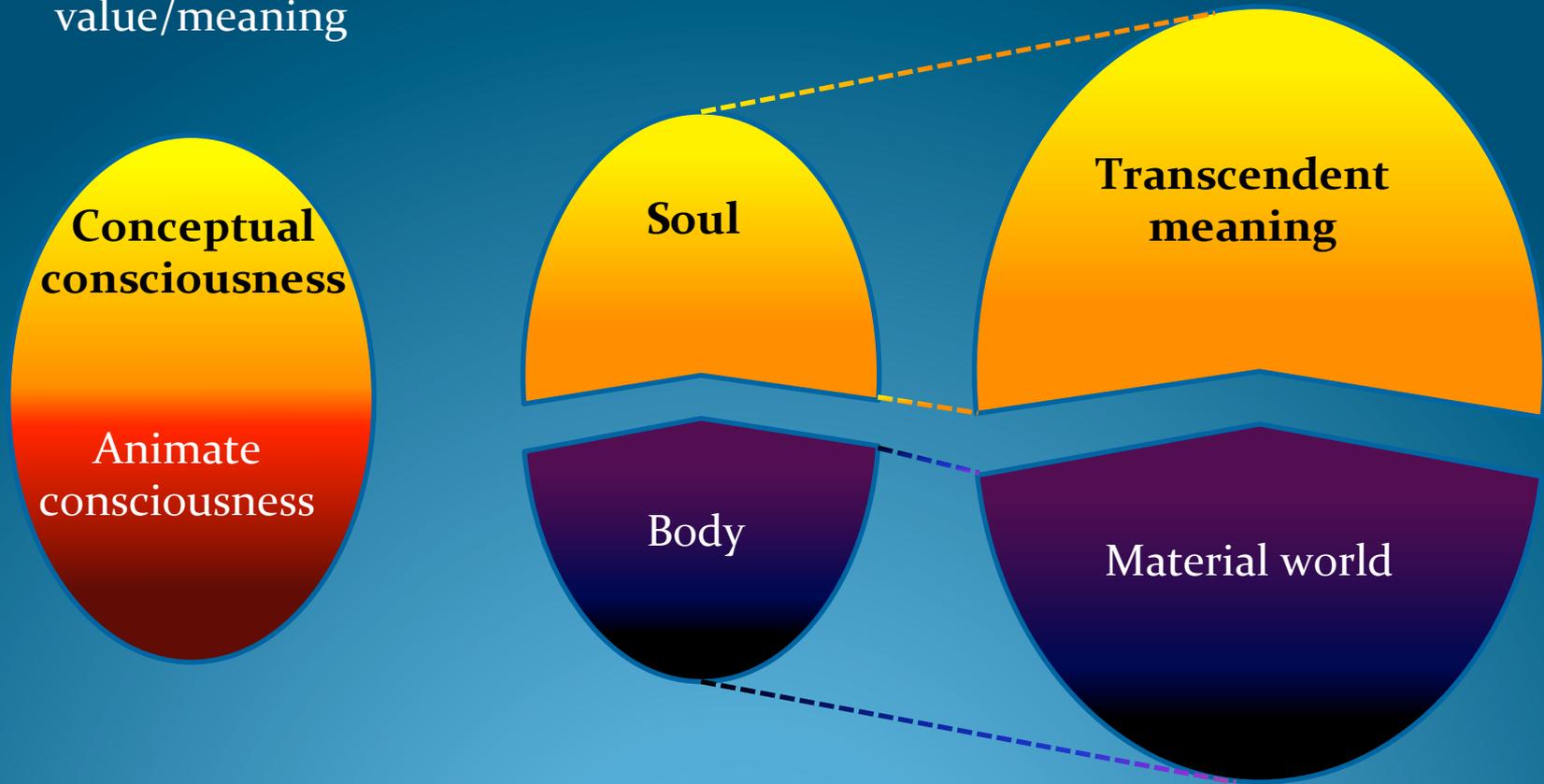


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## Pfc<sub>3</sub>: the coup

Immortal soul +  
Eternal dimension of  
universe

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Hebrew monotheism

Beginning 2,500  
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Beginning 2,500  
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Immortal soul +  
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The coup...

Hebrew monotheism

Christianity

The first systematic  
dualistic cosmology

## Pfc<sub>4</sub>: the tyranny

- A scientific revolution erupted in Europe in the 17<sup>th</sup> century, creating our modern world
  - Descartes - mind/body dualism
  - Reductionism the basis for scientific enquiry
  - The natural world a resource for human conquest and domination

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Francis Bacon, the prophet of the scientific age:

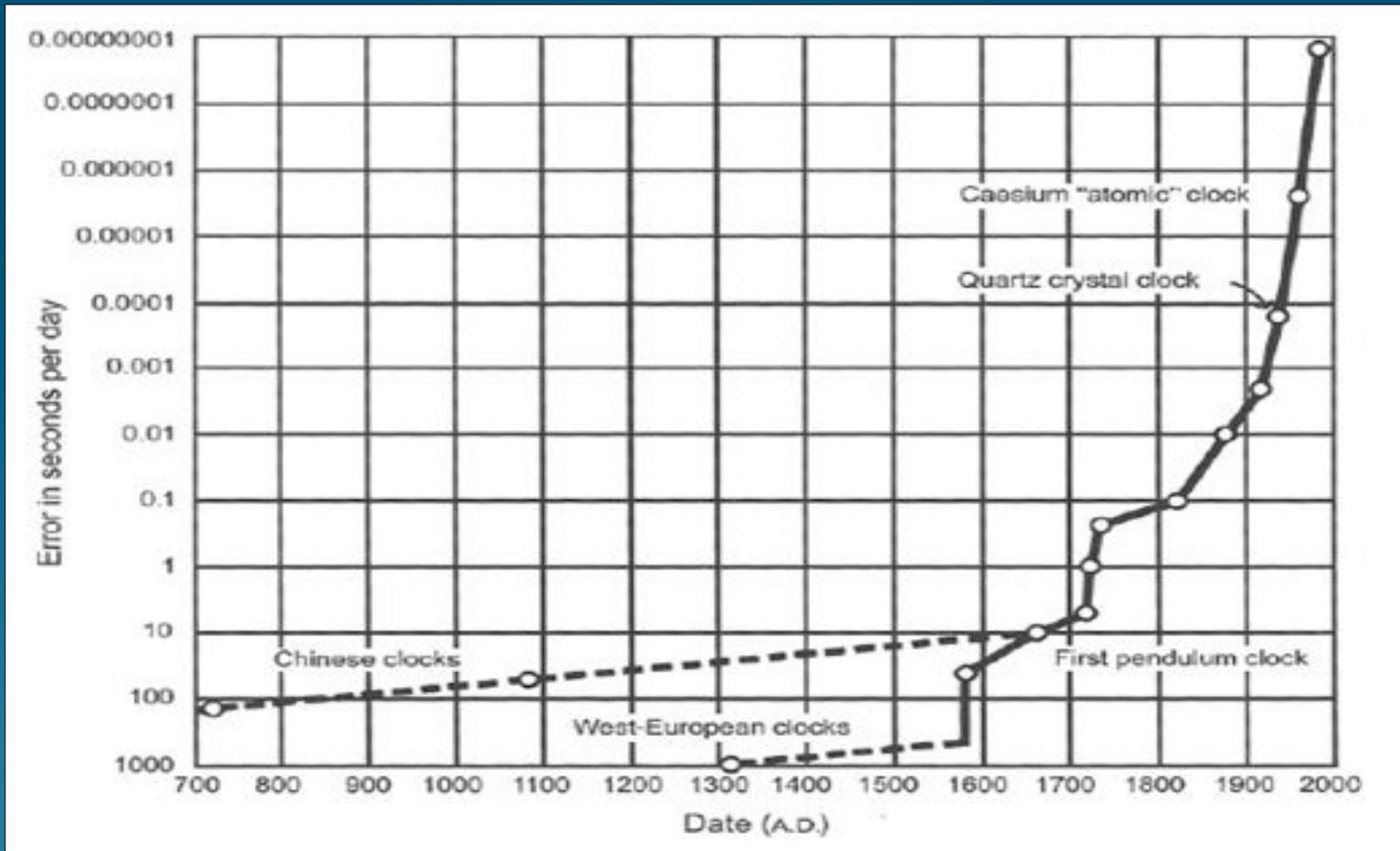
*“unite forces against the nature of things, to storm and occupy her castles and strongholds and extend the bounds of human empire”*

*“establish and extend the power of dominion of the human race itself over the universe”*

*“render ourselves the masters and possessors of nature”*

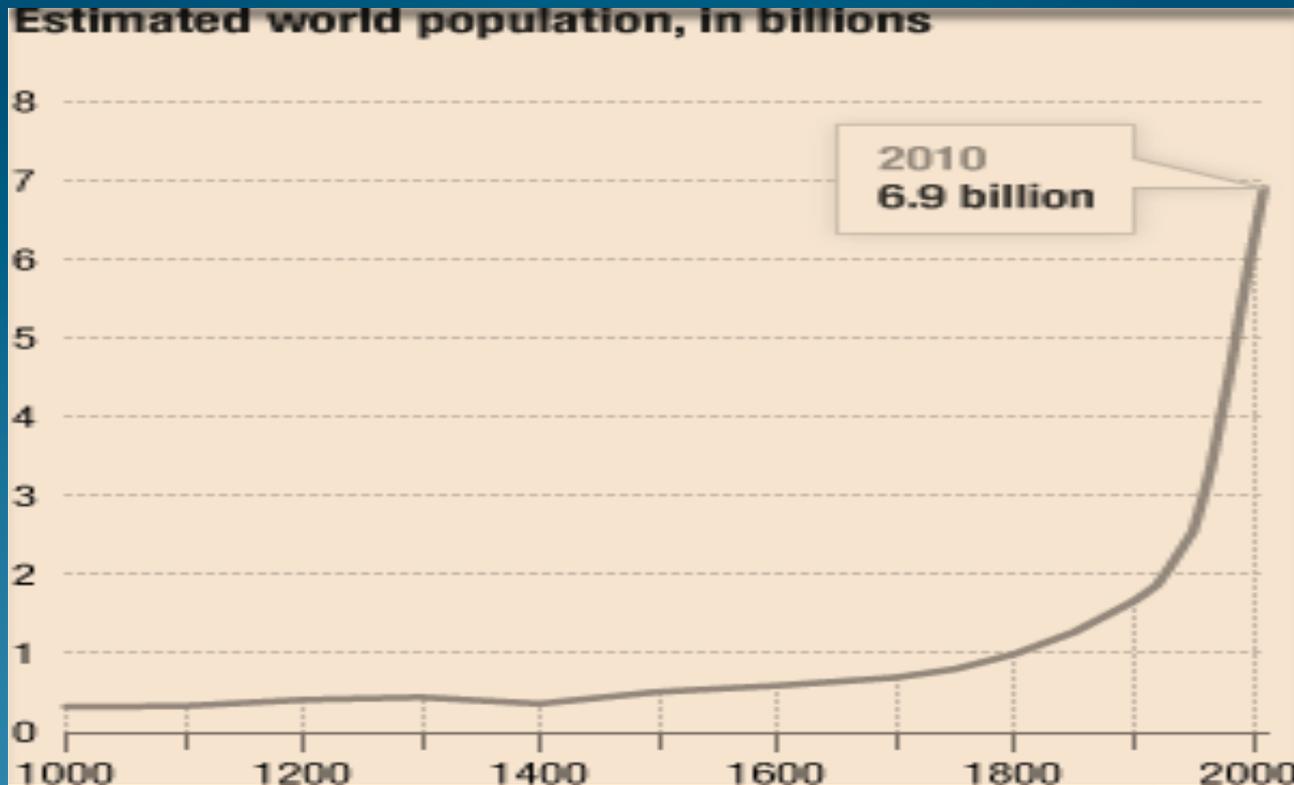
# And we succeeded beyond Bacon's wildest dreams...

## The accuracy of time measurement



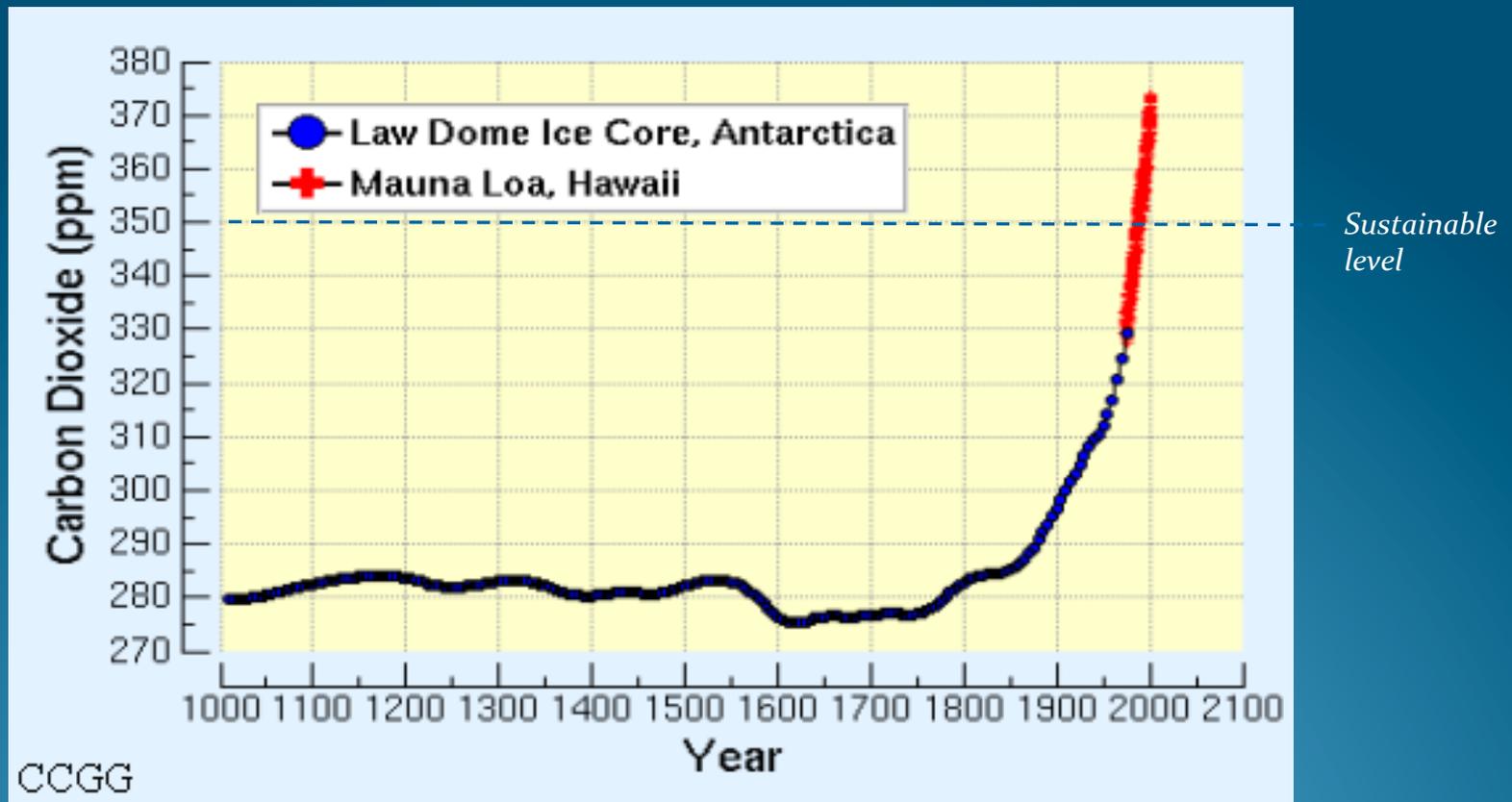
... with huge implications for our place in the world...

World human population



# ... creating unsustainable dynamics for our future...

## Atmospheric Carbon Dioxide concentration



# The pfc's exponential rise is driven by the ratcheting effect of culture

Pfc's  
patterning  
instinct



# The pfc's exponential rise is driven by the ratcheting effect of culture

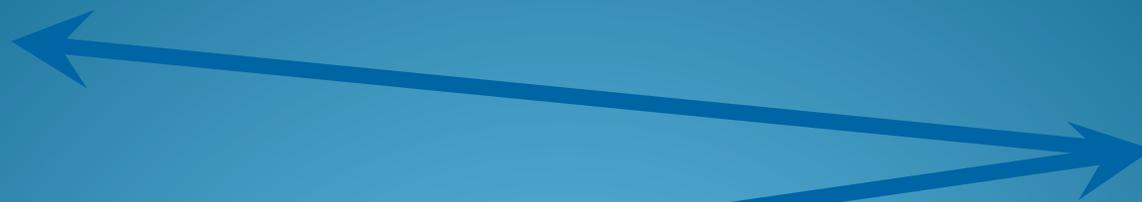
Pfc's  
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Early  
symbolic  
thought

# The pfc's exponential rise is driven by the ratcheting effect of culture

Increased  
pfc usage



Early  
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Pfc's  
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# The pfc's exponential rise is driven by the ratcheting effect of culture



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Pfc more networked

Language

Increased pfc usage

Early symbolic thought

Pfc's patterning instinct



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# The pfc-powered human take-off...



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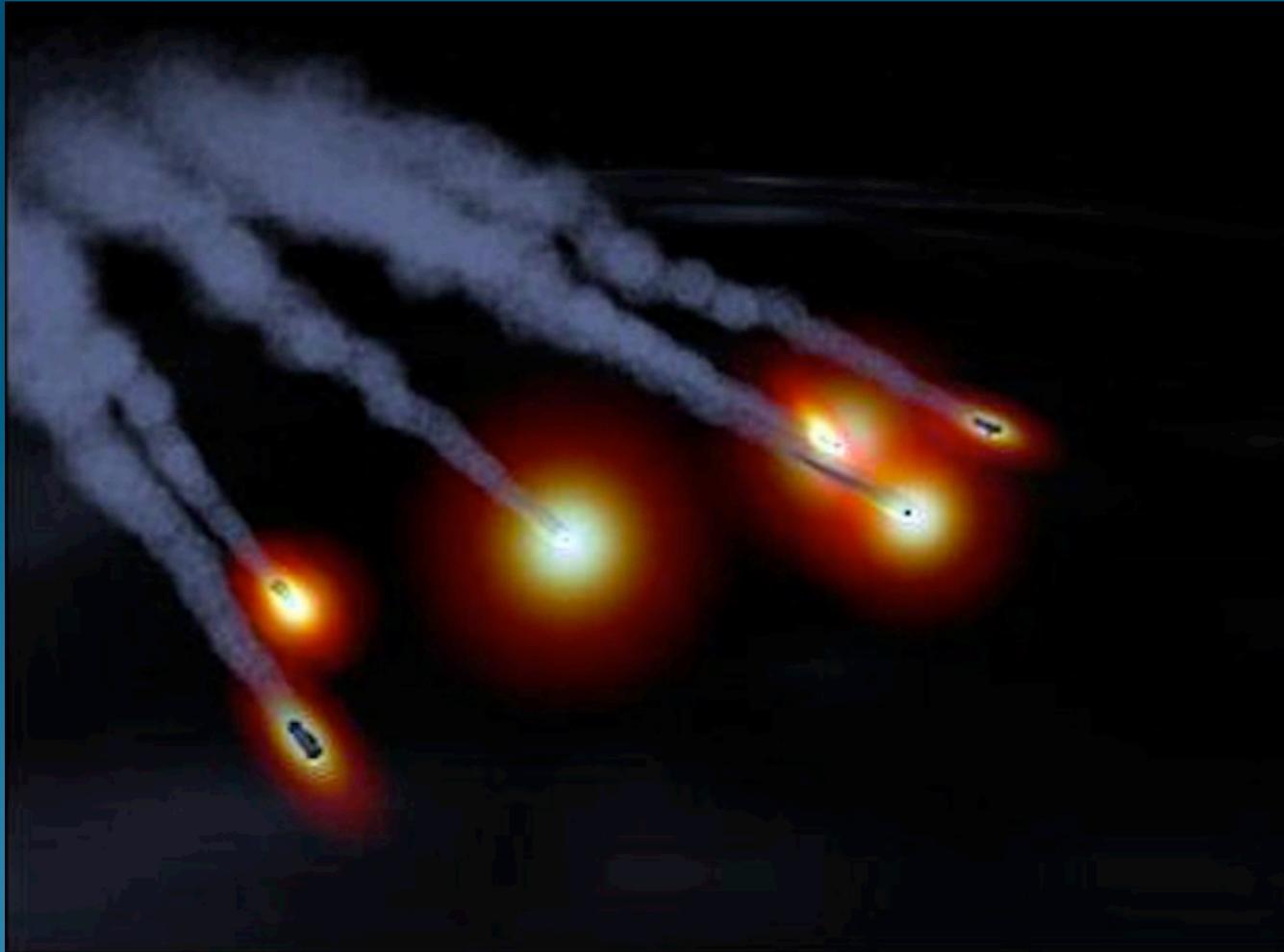


... can lead to one of three scenarios...

... going out of orbit...



... crash landing...



... or a stable, sustainable orbit.



# Sustainability requires a new inflexion point – to Pfc<sub>5</sub>...

Level of pfc domination over consciousness

Pfc<sub>5</sub>



Pfc<sub>4</sub>: The tyranny



Pfc<sub>3</sub>: The coup



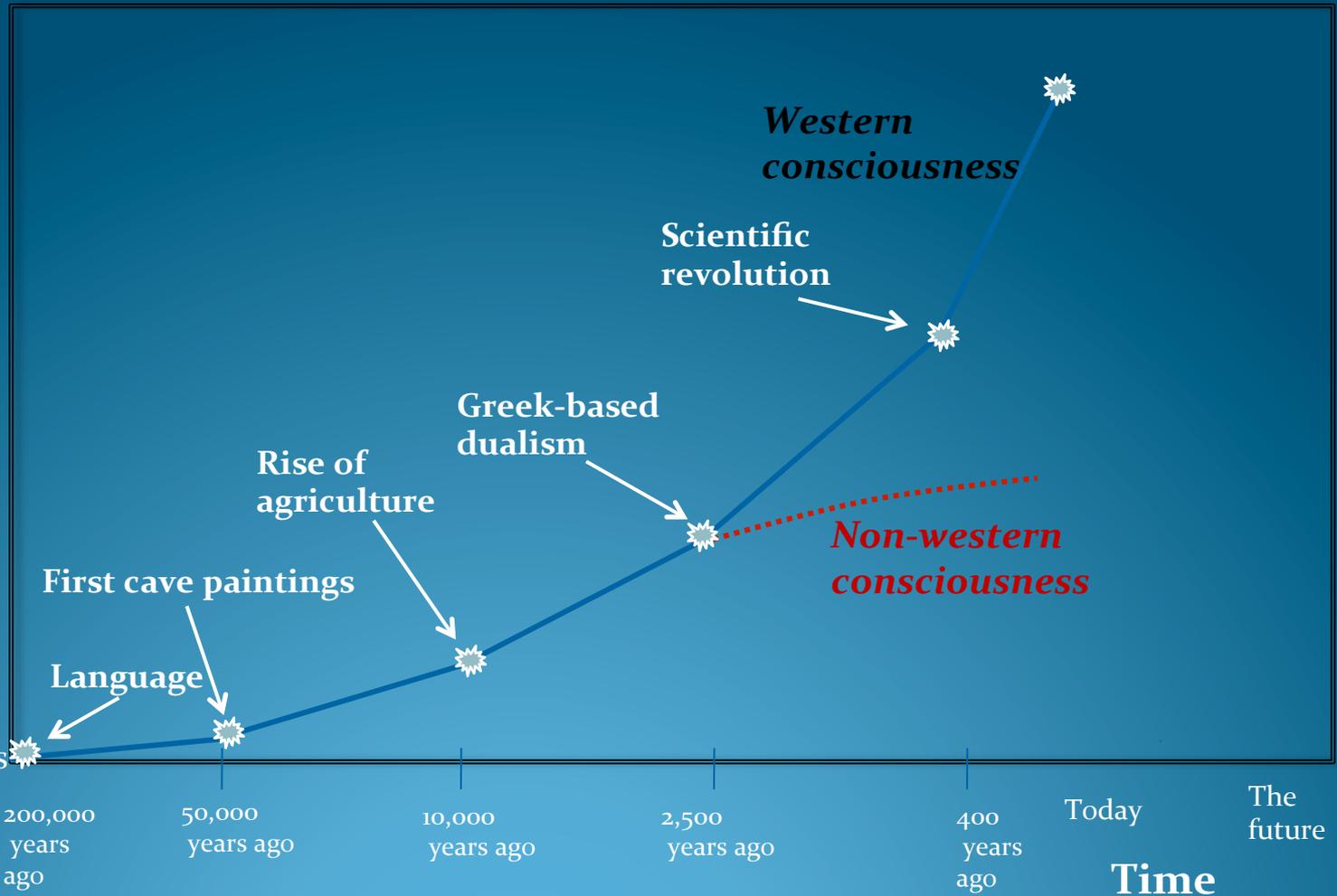
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Pfc<sub>1</sub>: Stirrings of power



Pfc<sub>0</sub>: Human uniqueness



# ... but what would that new global consciousness look like?

Level of pfc domination over consciousness

Pfc<sub>5</sub>  
↑

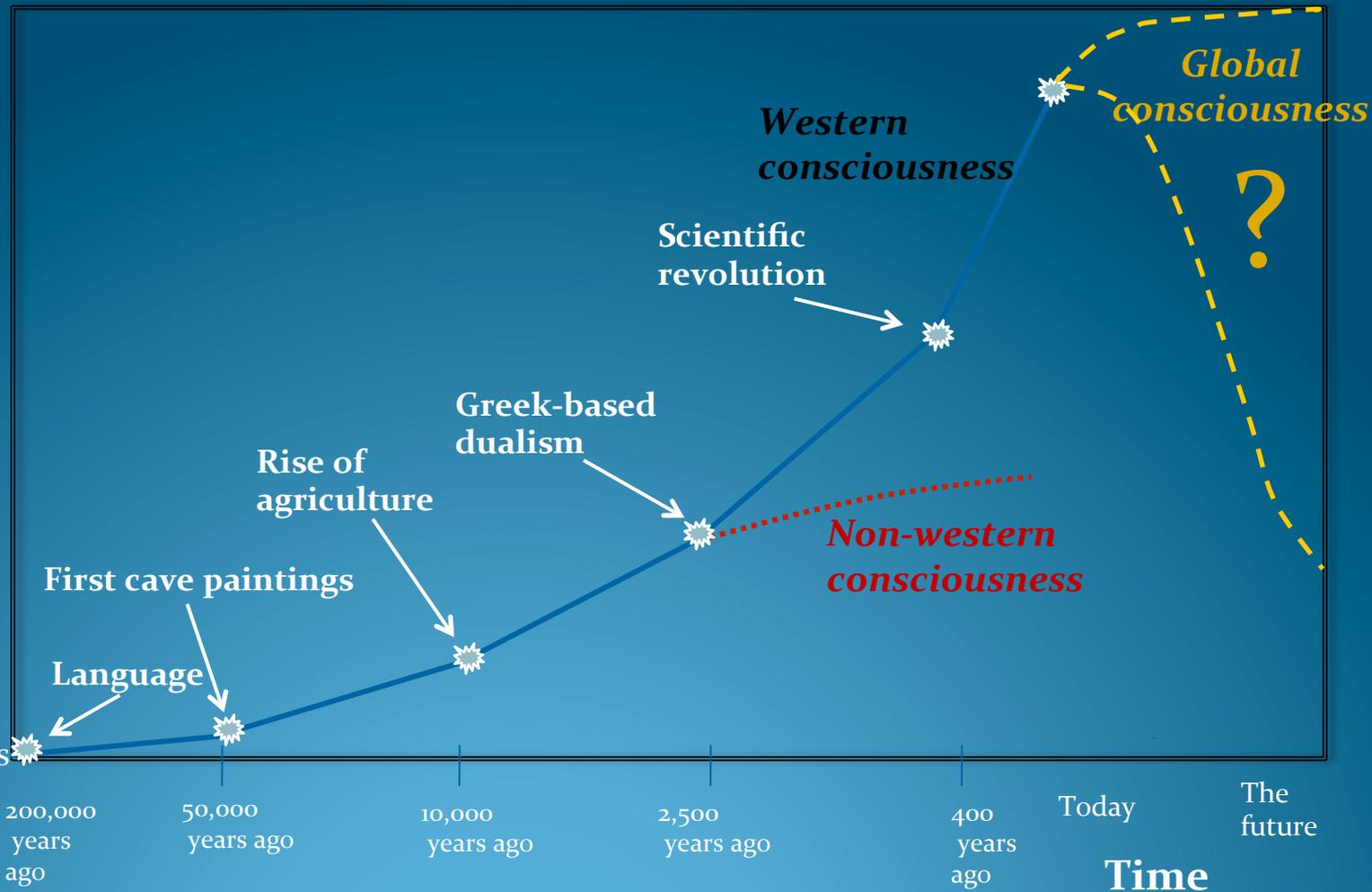
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↑



Would the pfc act like President of a  
“democracy of consciousness”?



Would it be more like a “conductor” of consciousness?

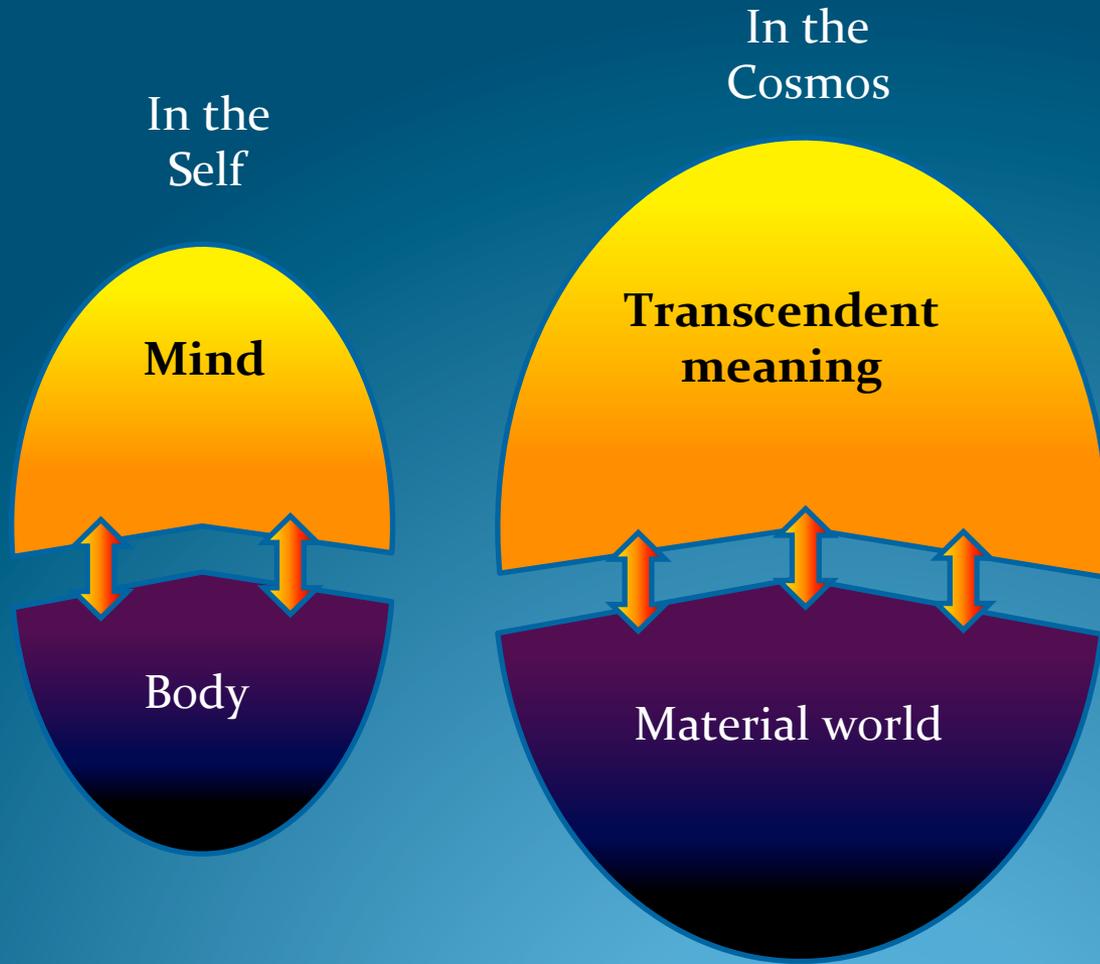


# Could consciousness act more like a free-form jazz band?

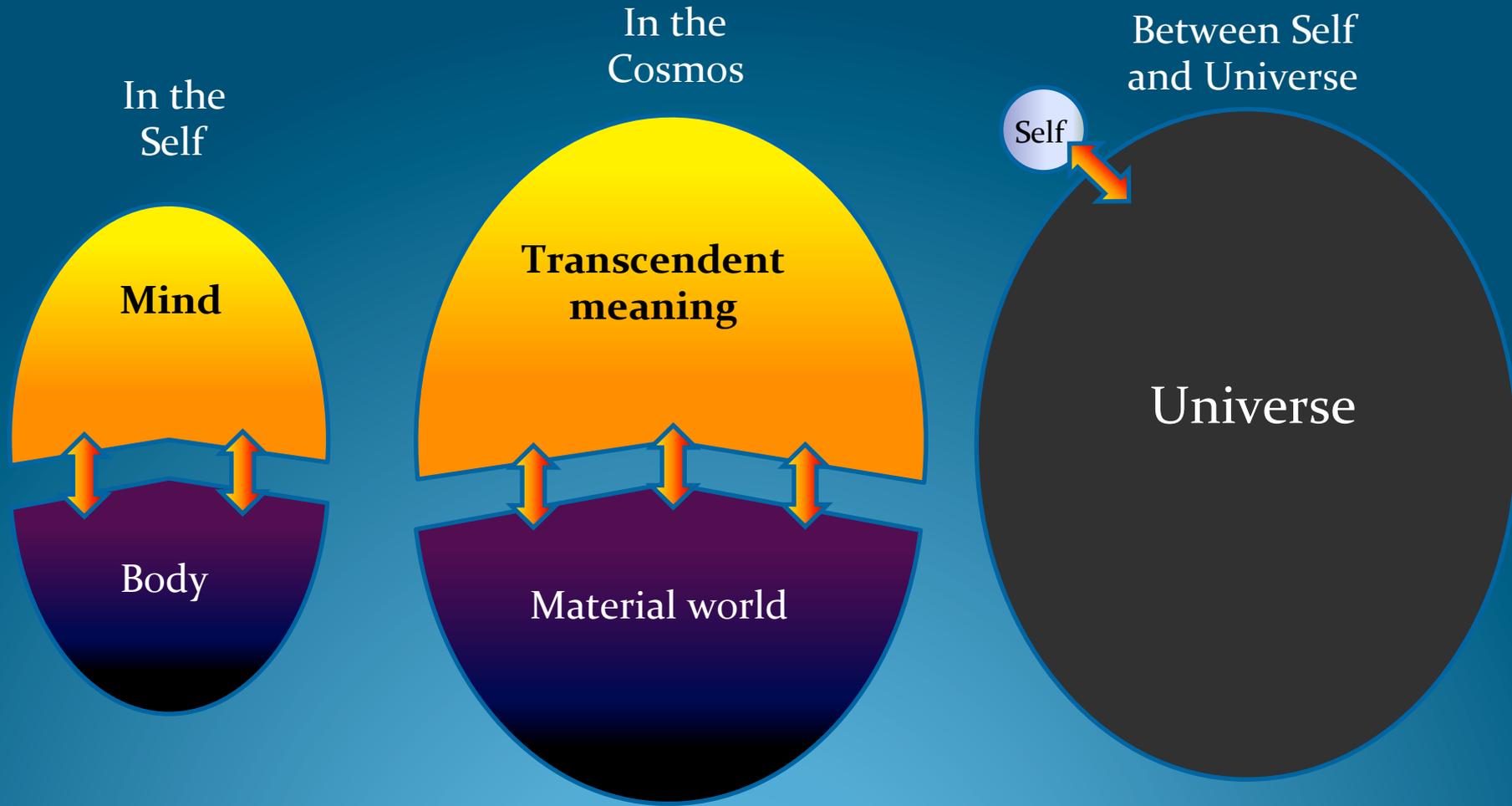


*King Oliver's Creole Jazz Band, 1921*

# A pfc<sub>5</sub> worldview needs to restore integration to pfc<sub>4</sub> separations



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- Taoist *wu-wei* offers a mode of non-purposive, non-goal oriented action

# Modern science offers us hints of a $\text{pfc}_5$ worldview

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  - No system is autonomous, but continually interacting with other systems
  - There are no fixed equilibria – only continually shifting states of relative stability
  - Occasional phase transitions lead to the emergence of new forms of complexity

# Pfc<sub>5</sub> worldview derives meaning from connectivity, not transcendence

Parameter	Pfc <sub>4</sub>	Pfc <sub>5</sub>
Explanatory principle of life	Reductionism, mechanics	Self-organization/ emergence
Relation between material and spiritual	Dualism	Integrated dynamics
Source of spiritual value and meaning	Transcendence	Dynamic connectivity between all living things

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Meaning of natural world	Resource to utilize	Source of material and spiritual nourishment

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Meaning of natural world	Resource to utilize	Source of material and spiritual nourishment
Defining nature of self	Separate, fixed, autonomous	Connected, fluid, interactive
Role of pfc in consciousness	Tyrant	Conductor, integrator, guide

# Further reading

## **Book in process**

*Liology: Towards an Integration of Science and Meaning*

## **Website**

[jeremylent.com](http://jeremylent.com)

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