

# Cosmic Ecology

An exploration of the cosmic significance of humanity based on the natural philosophy of J.G.Bennett and drawing on multiple sources of science and spirituality,

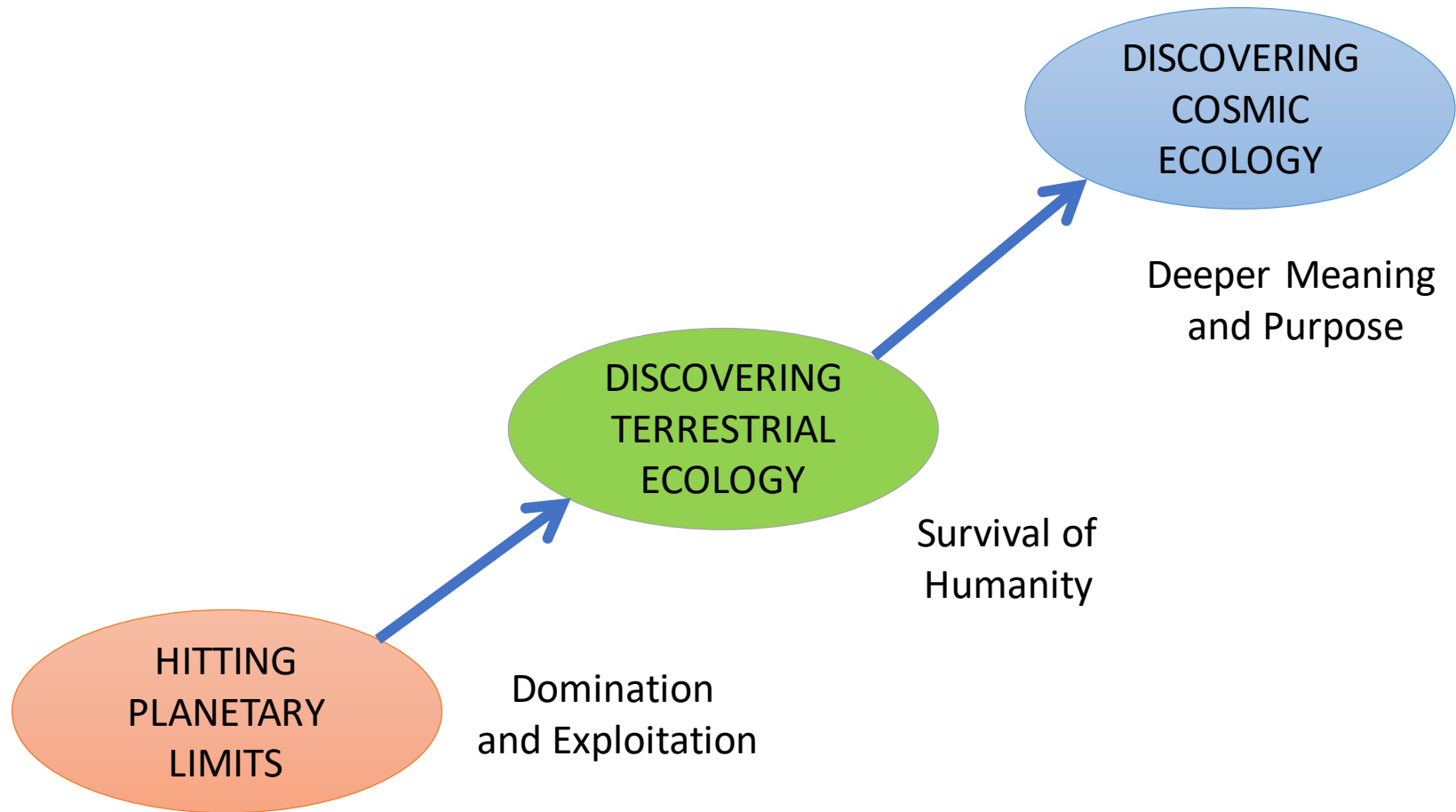
Part 1 – Human Beings in the Universe

Module 8 – Cosmogenesis and Intelligent Evolution

Dr. Anthony Hodgson



# Exploring the Big View



1 Entering the forbidden zone of the Larger Context of Cosmic Intelligence

2 The universe has 12 levels – it is not a continuum

3 Each level has a characteristic qualitative energy and intelligence

4 To understand this intelligence we need a new way of thinking about pattern

5 To understand this intelligence we also need a new way of thinking about space and time

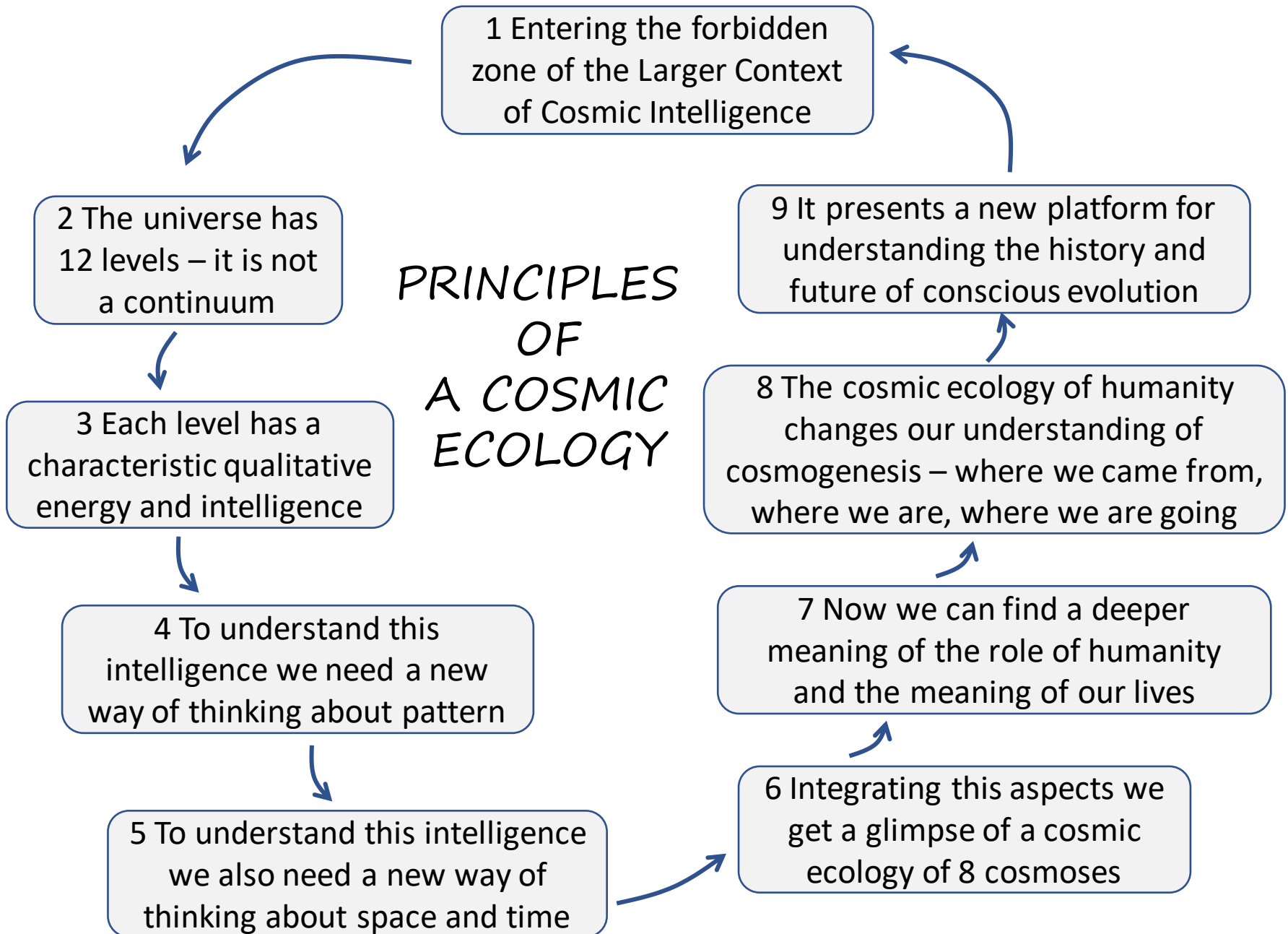
## PRINCIPLES OF A COSMIC ECOLOGY

9 It presents a new platform for understanding the history and future of conscious evolution

8 The cosmic ecology of humanity changes our understanding of cosmogenesis – where we came from, where we are, where we are going

7 Now we can find a deeper meaning of the role of humanity and the meaning of our lives

6 Integrating these aspects we get a glimpse of a cosmic ecology of 8 cosmoes

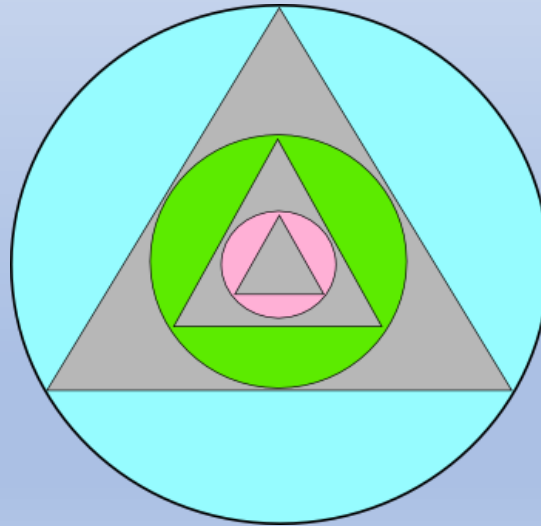


# This session: -

1. Some big questions
  2. The Hydrogen Universe
  3. The Biocosm Universe
  4. The Intelligent Universe
  5. The Complete Cosmogenesis
- Conclusion

# Section 1

## Some Big Questions



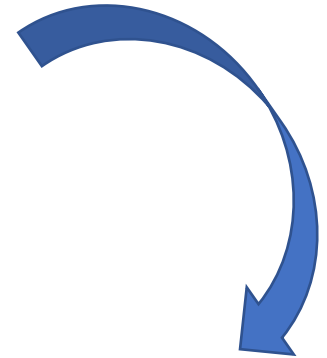


**BE!**

Supposing  
**'The Big Bang'**

is actually a  
product of

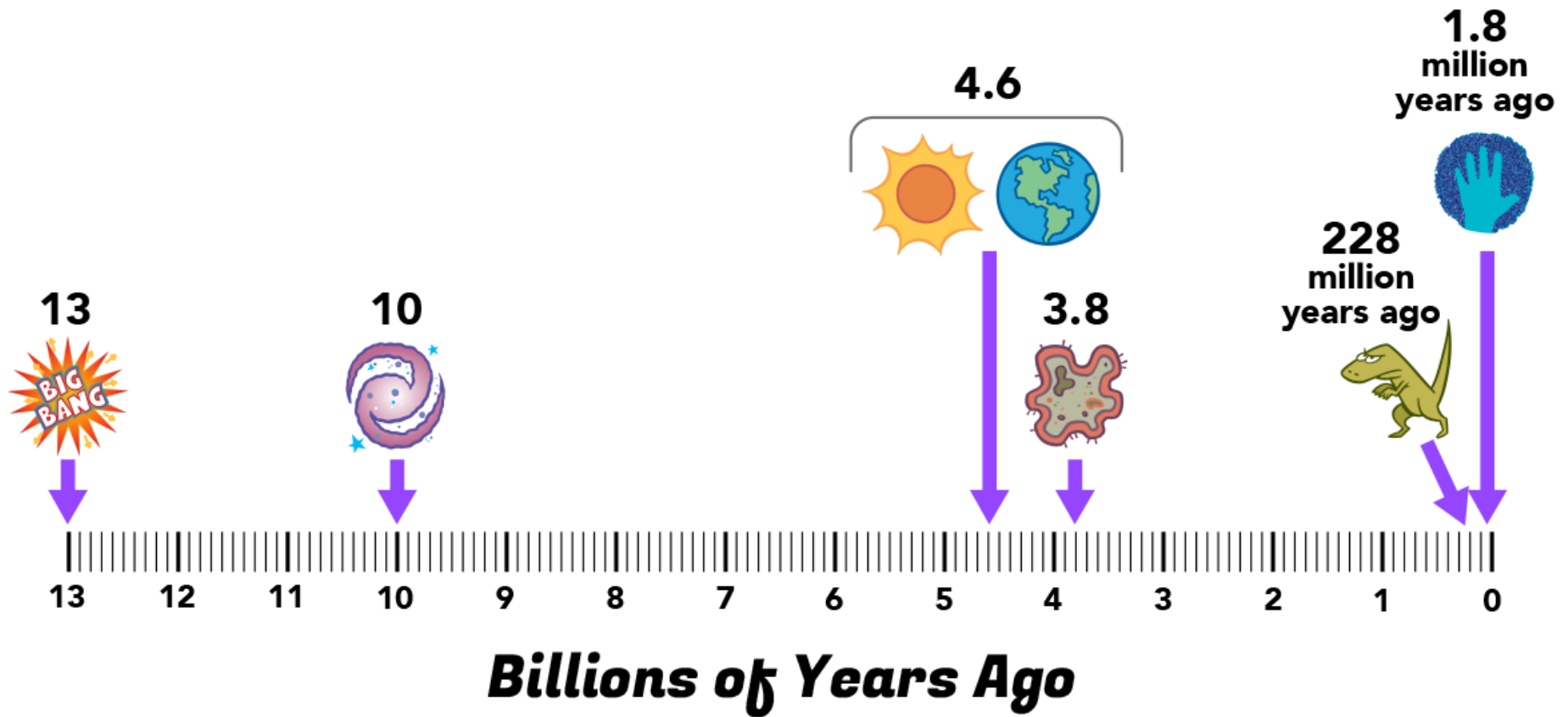
**'The Big Shout'**  
?



# The Three Big Questions

- 1) why is there any structure at all to the Universe?
- 2) why does this structure lead to the capability for life to exist?
- 3) why does life lead to intelligence to understand this structure?.

# In Conventional Time

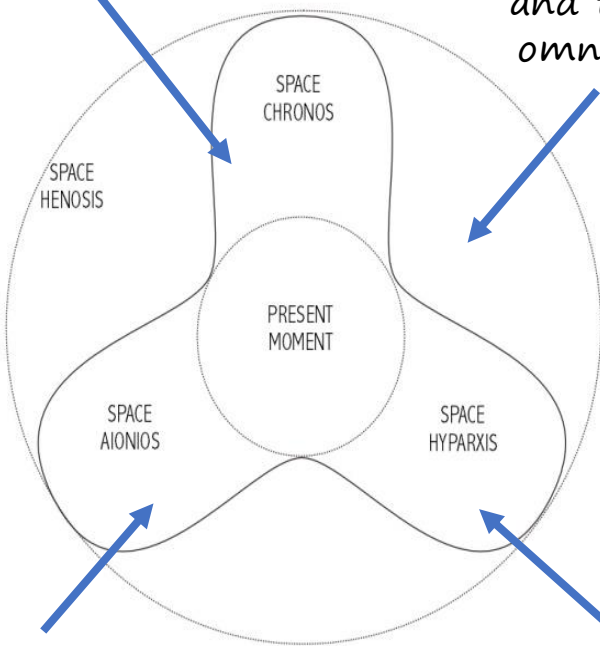




# Seven Dimensions and the Four Continua

Sequences of  
durational events  
in a location

Unity  
beyond space  
and time but  
omnipresent



General  
latent  
patterns in  
space

Local  
manifestation of  
the individual and  
the particular

PATTERNED  
POTENTIAL  
(AIONIOS)

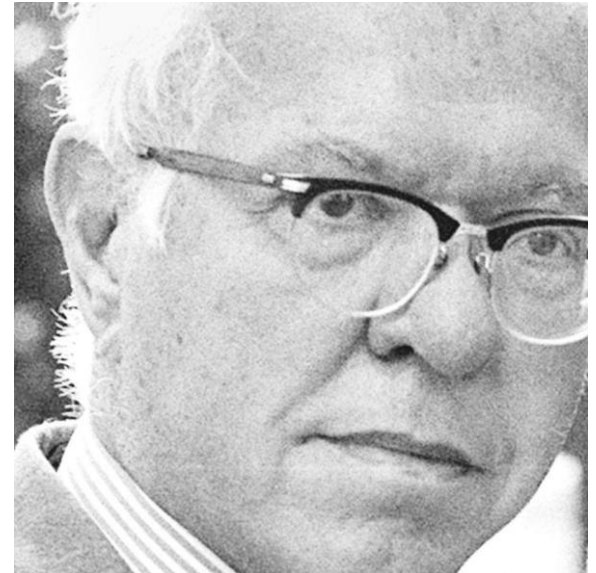
REALIZED  
IN THE FACE OF  
HAZARD  
(HYPARXIS)

SUCCESION  
OF EVENTS  
(CHRONOS)

# Genesis Out of Time

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“If events could operate not only from past to future, but also from future to past, the seemingly intractable problem of quantum uncertainty could be solved. Instead of living matter becoming more and more disorganised, it could react to quantum signals from the future – the information necessary for the development of life. Instead of the universe being committed to increasing disorder and decay, the opposite could then be true.”



Sir Fred Hoyle  
*The Intelligent Universe*

# Genesis Out of Space

“The essential features the implicate order are, as we have seen, that the whole universe is in some way enfolded in everything in that each thing is enfolded in the whole. ...

All things found in the explicate order emerge from the holomovement and ultimately fall back into it. They endure only for some time, and while they last, their existence is sustained by a constant process of unfoldment and re-enfoldment, which gives rise to their relative stable and independent forms in the explicate order.”

David Bohm



*The Undivided Universe*, D.Bohm and B.J.Hiley, Routledge, 1993

# Discussion Interlude 1

## Questions and Observations

PLENARY

# Three Layers of Cosmogenesis

## THE INTELLIGENT UNIVERSE

- Supposes consciousness as the prime source and contains the universe
- Creates the manifest universe through unfolding and implicate order

## THE BIOCOSM UNIVERSE

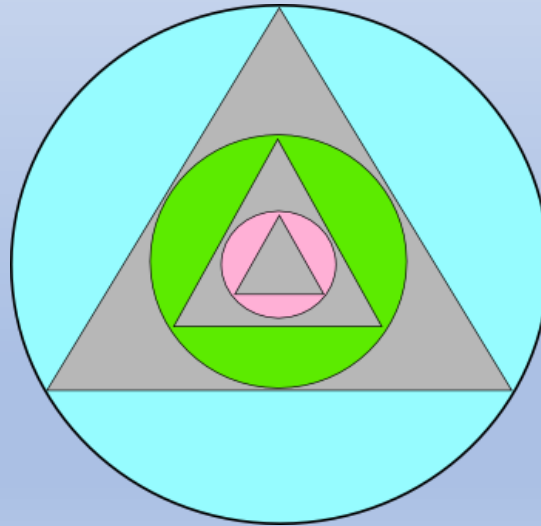
- Supposes living universe that is set up to reproduce itself
- Made possible by fine tuning of physical constants

## THE HYDROGEN UNIVERSE

- Supposes a 'big bang' around 14 billion years ago
- Expanding universe driven by gravity and dark matter – life and awareness a 'happy accident'

# Section 2

## The Hydrogen Universe

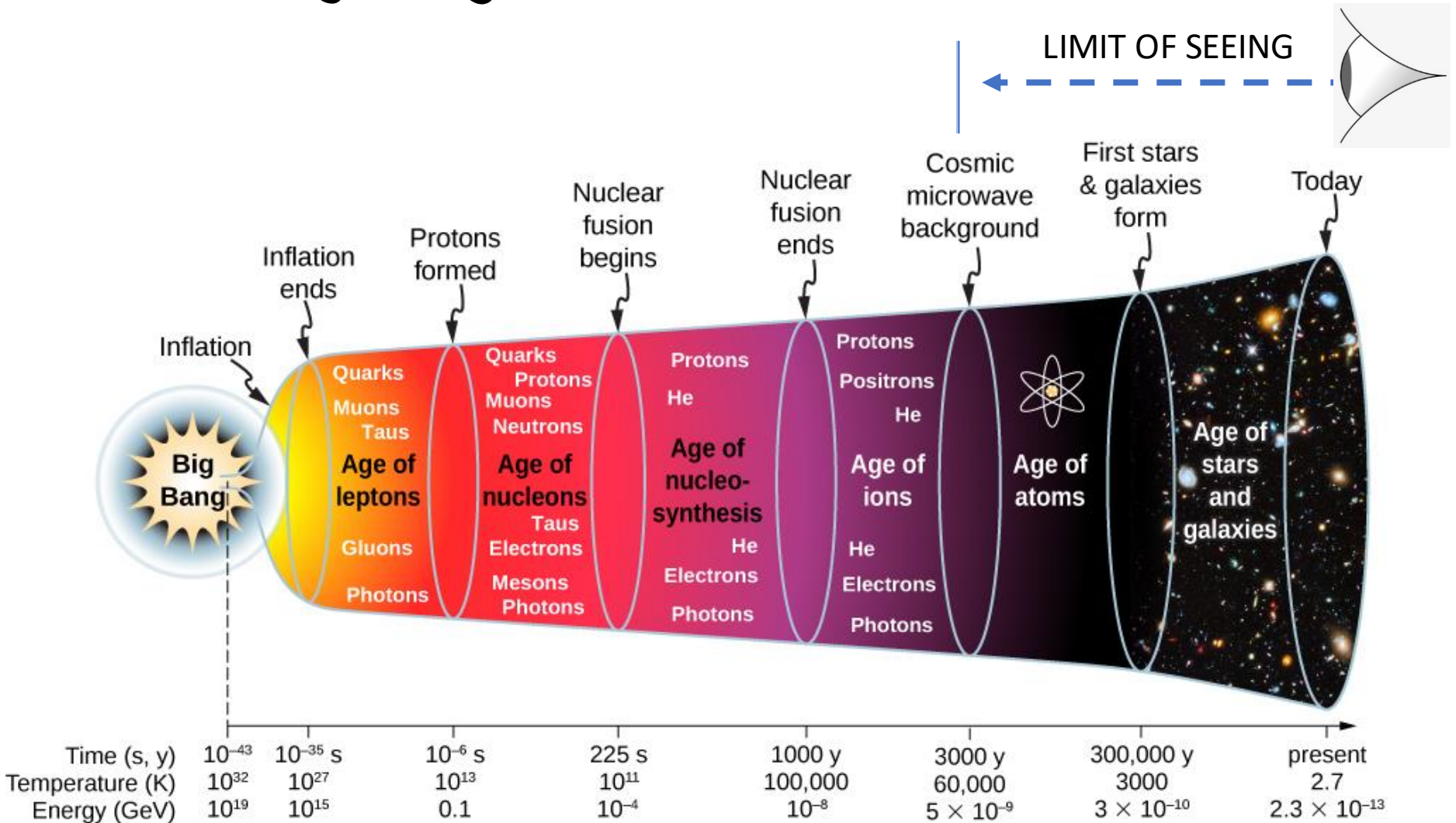


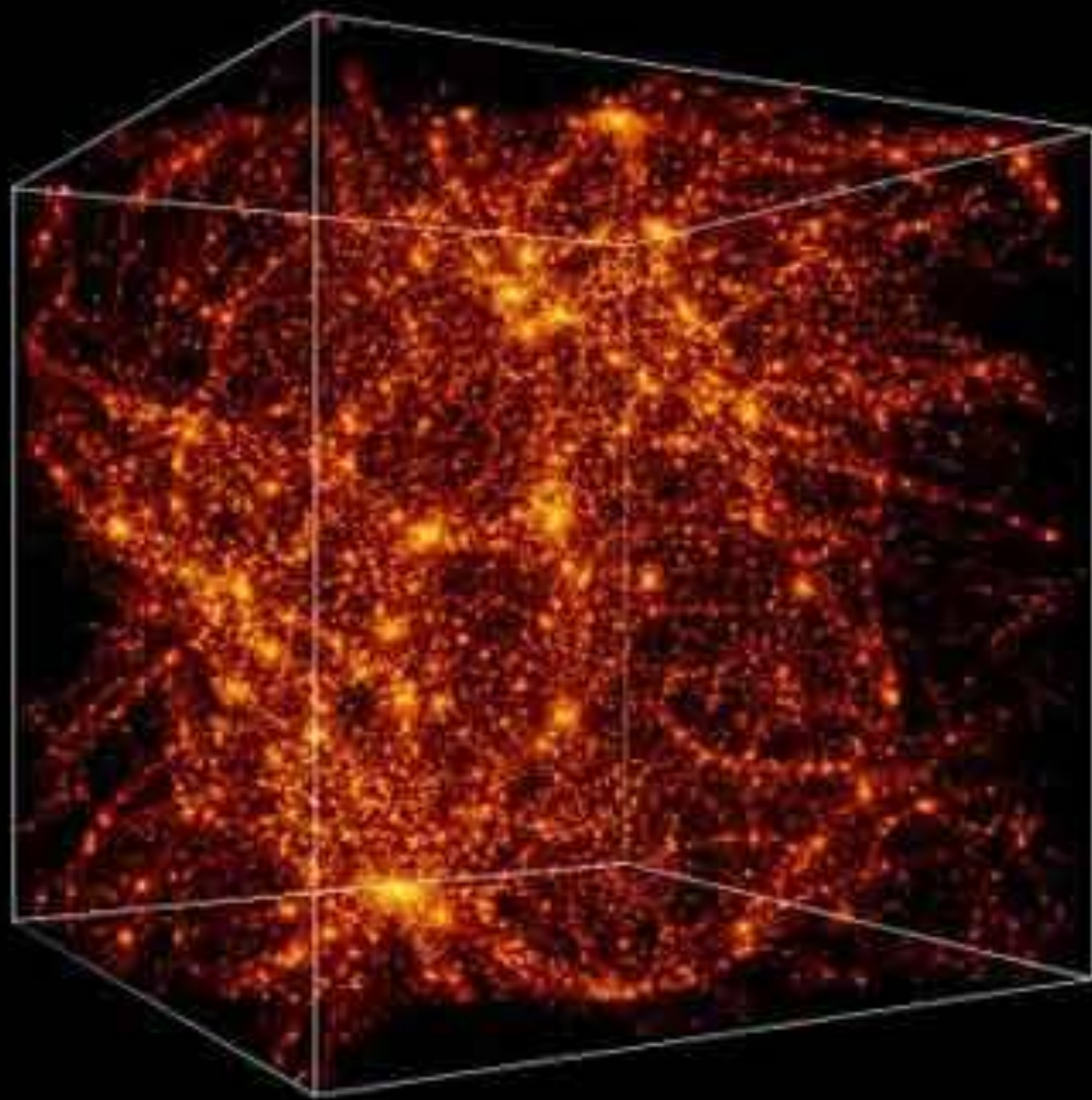
## THE HYDROGEN UNIVERSE

- Supposes a 'big bang' around 14 billion years ago
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# The Hydrogen Universe





# *Video of Background Radiation Discovery*

From Great Courses:

*A Visual Guide to the Universe*

Dr Daniel Meyer  
Professor of Physics  
at North Western University

Chapter 18 – *The Afterglow of the Big Bang*

**17:50 to 31:59**

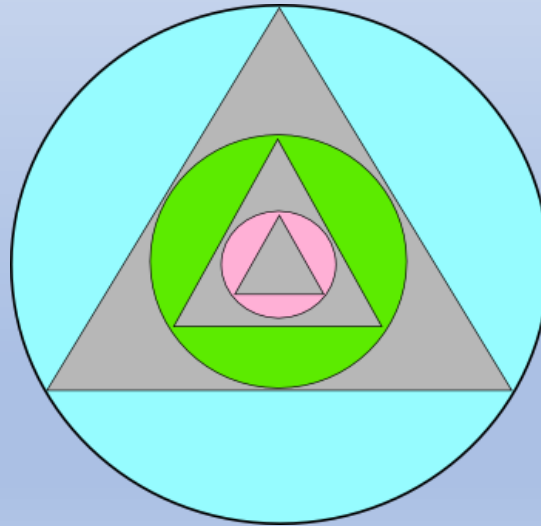
## Discussion Interlude 2

# Questions and Observations

PLENARY

# Section 3

## The Biocosm Universe



# THE BIOCOSM UNIVERSE

- Supposes living universe that is set up to reproduce itself
- Made possible by fine tuning of physical constants

# The Biocosm Universe Principles

Life and intelligence are the primary cosmic phenomena and that everything else:

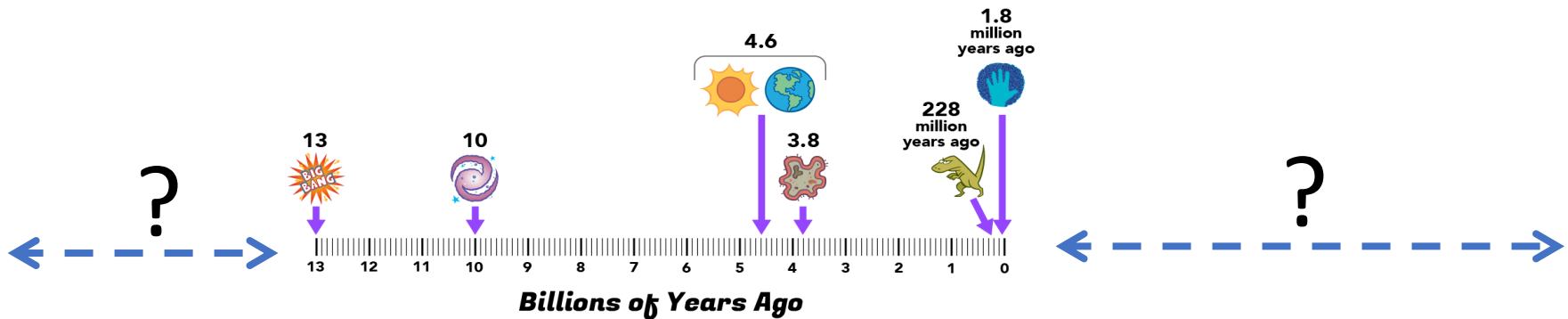
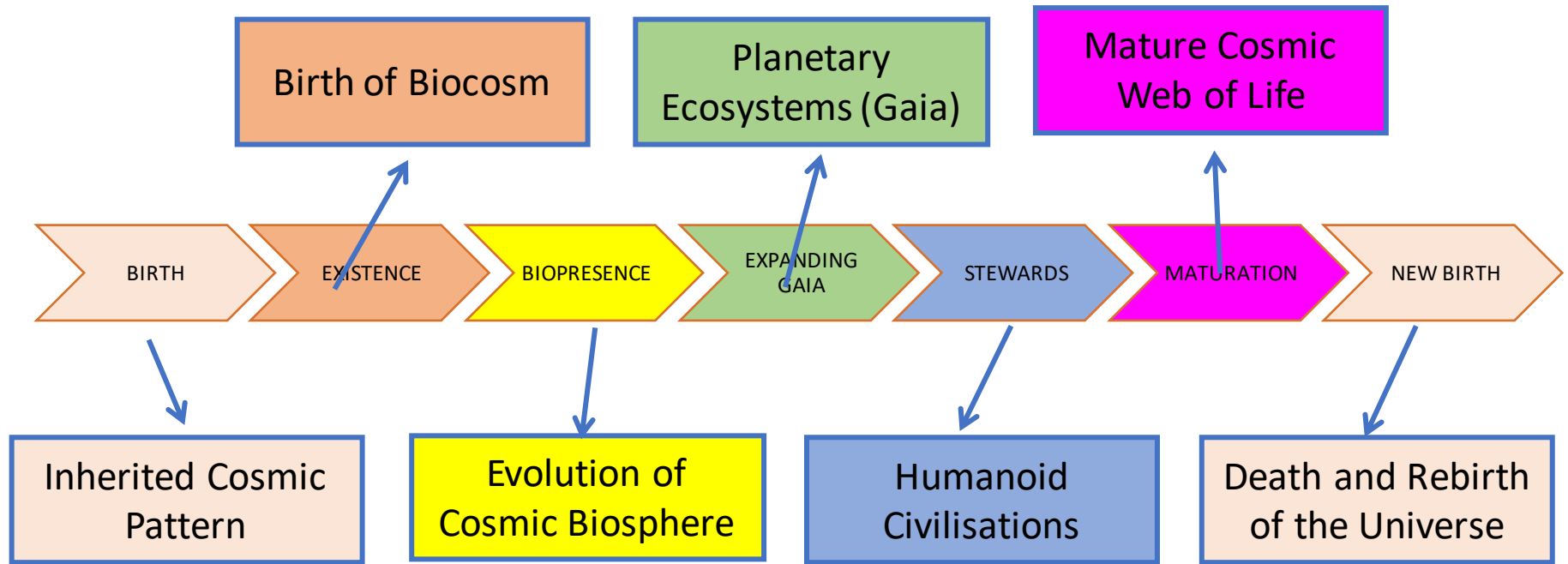
- the constants of nature,
- the dimensionality of the universe,
- the origin of carbon and other elements in stars,
- the pathway traced by peer biological revolution

are secondary derivatives

The emergence of life and intelligence are not meaningless accidents in a hostile, largely lifeless cosmos but at the very heart of creation, cosmological evolution, and cosmic replication.



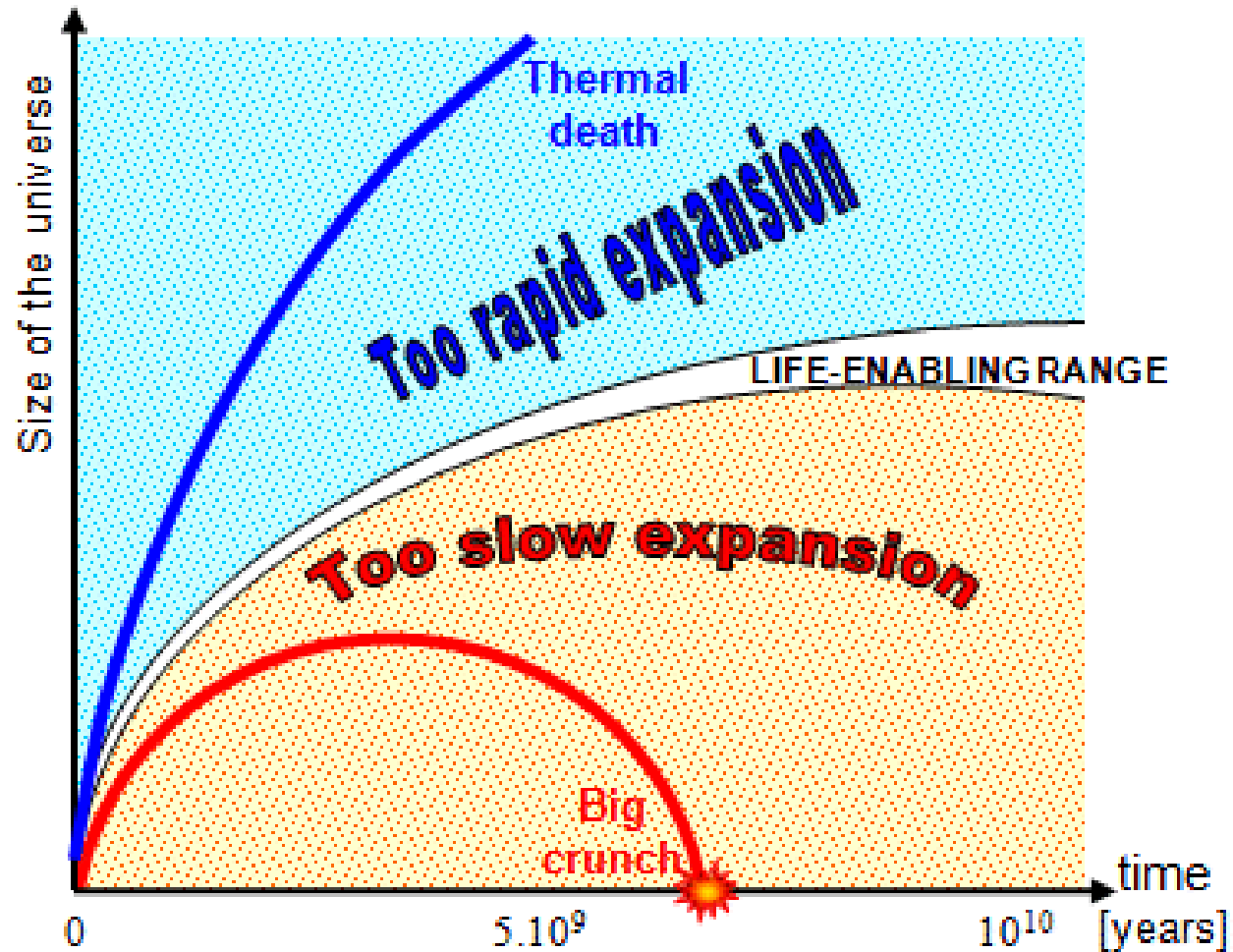
# The Biocosm Universe



# Fine tuning of universal constants

## *The Anthropic Parameters*

- Gravitation constant
- Charge on the electron
- Planck's constant
- Speed of light



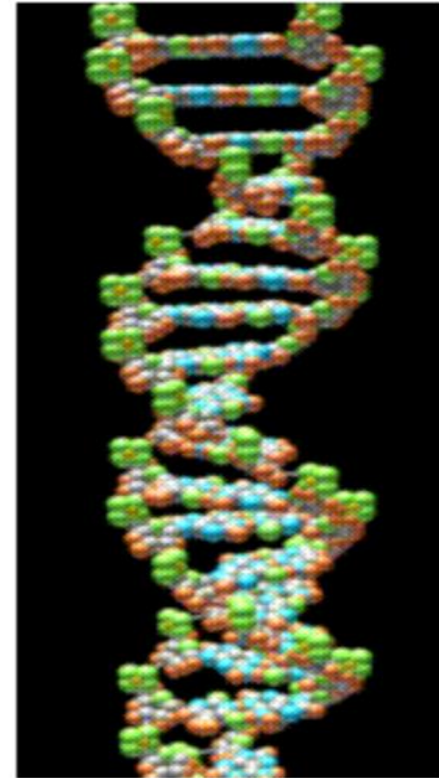
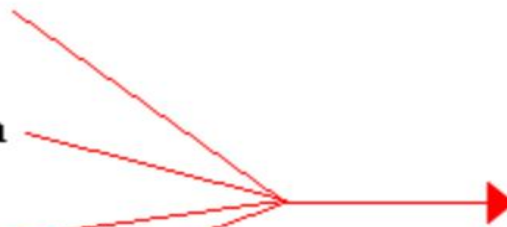
# The Amazing Fine Tuning of the Universe – The Anthropic View

gravitation constant

charge on an electron

Planck's constant

speed of light



The range of possible values for these constants is very narrow, only about 1 to 5% for the combination of constants. Outside this range, and life (in particular, intelligent life) would be impossible.

# *The Biocosm Hypothesis: This is a Living Reproducing Universe*

“The capacity of the universe to generate life and to evolve ever more capable intelligence is encoded as a hidden subtext to the basic laws and constants of nature, stitched as though the finest embroidery into the very fabric of our universe.

The oddly life–friendly laws of nature that prevail in our cosmos serve a function precisely equivalent to that of DNA in living creatures on earth, providing a recipe for development of a living universe and a blueprint for the construction of the offspring (baby universes)”

*James Gardner  
The Intelligent Universe  
(also author of Biocosm)*

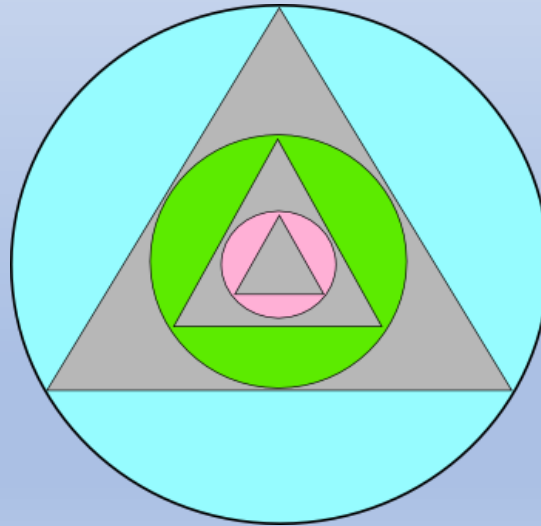
# Discussion Interlude 3

## Questions and Observations

PLENARY

# Section 4

## The Intelligent Universe

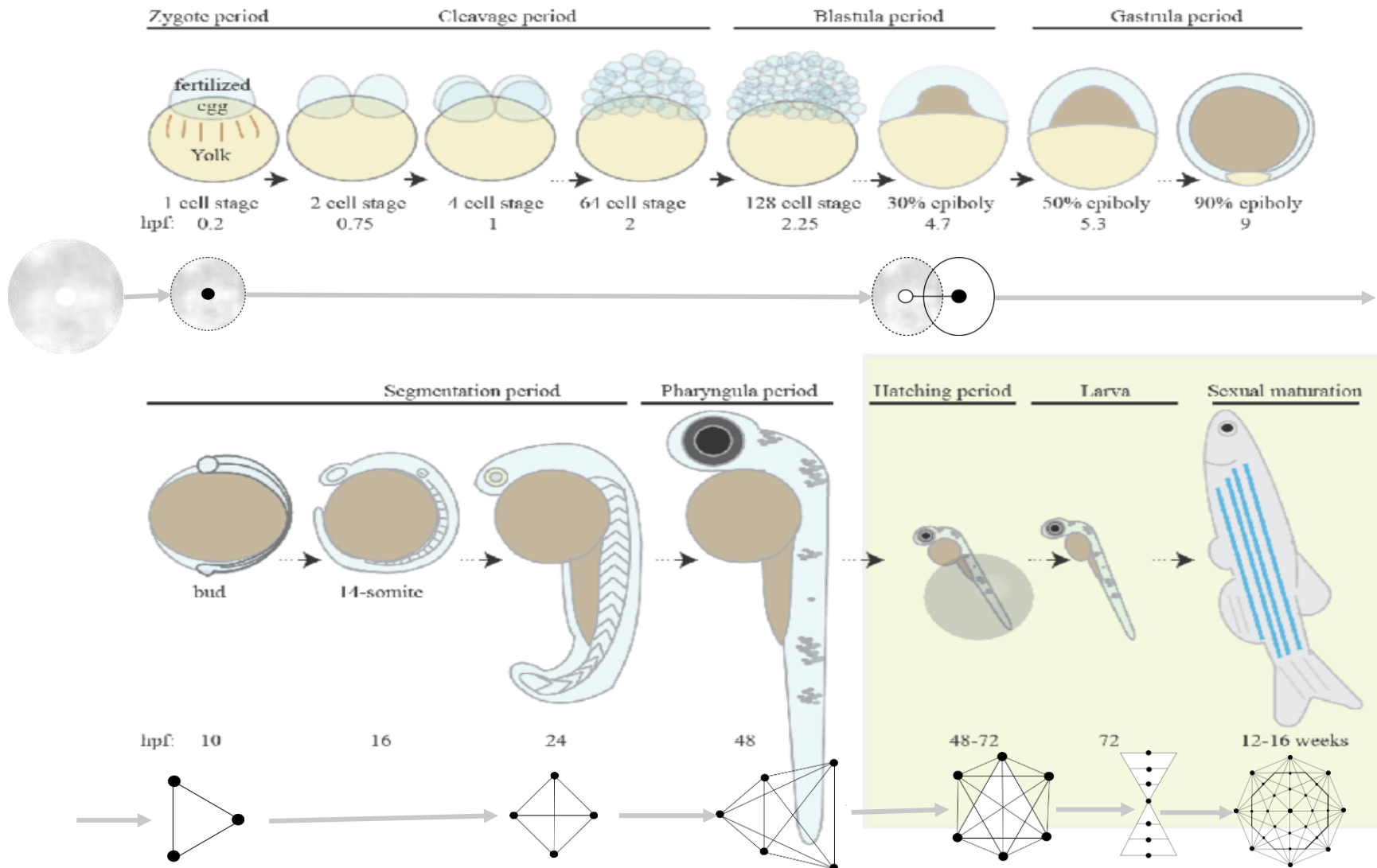


# THE INTELLIGENT UNIVERSE

- Supposes consciousness as the prime source and contains the universe
- Creates the manifest universe through unfolding and implicate order

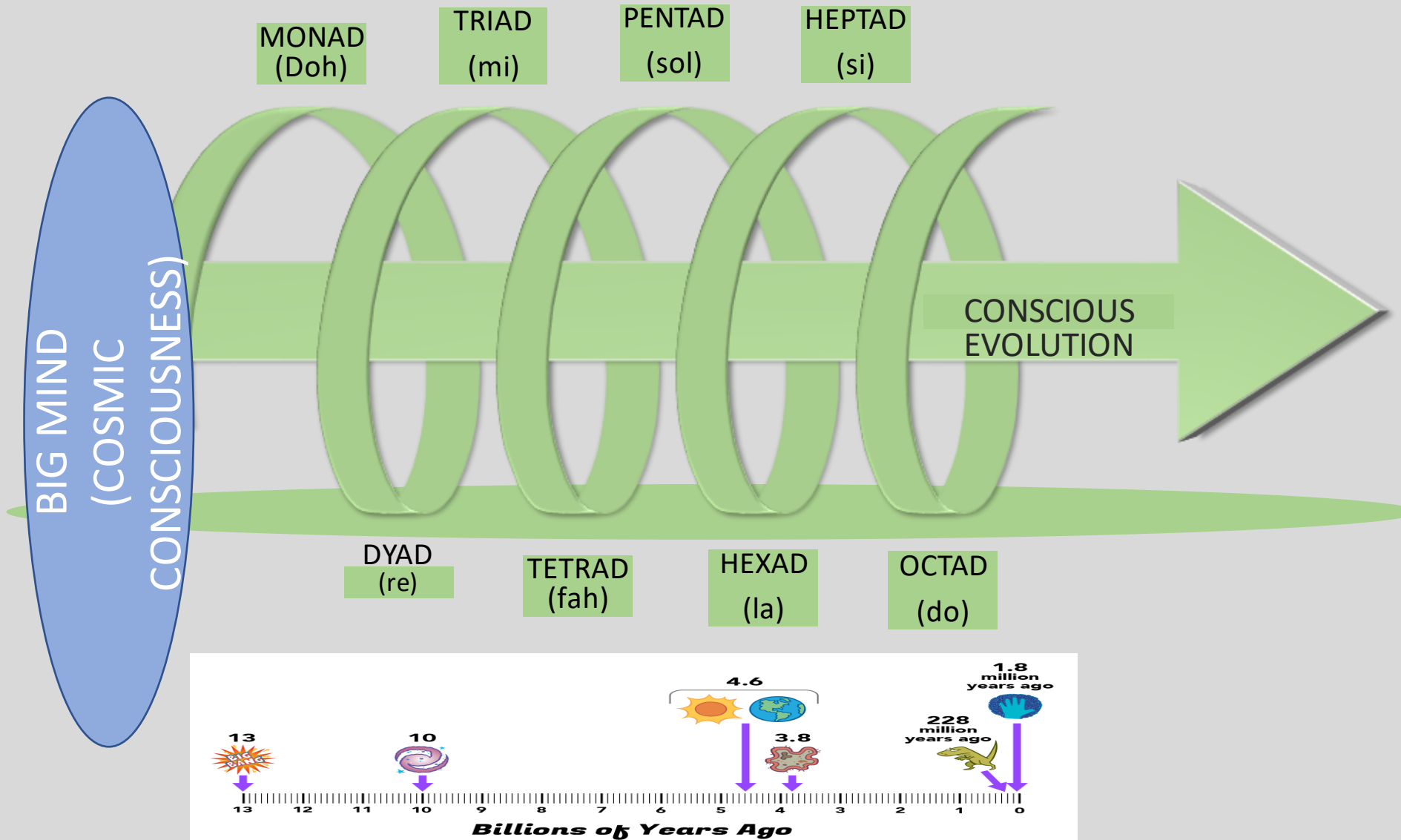


# Fish Development as a Qualsystems Unfolding

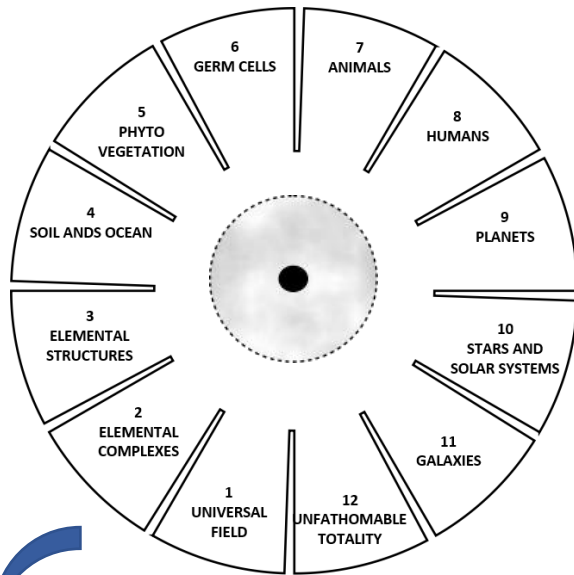


# The Intelligent Universe

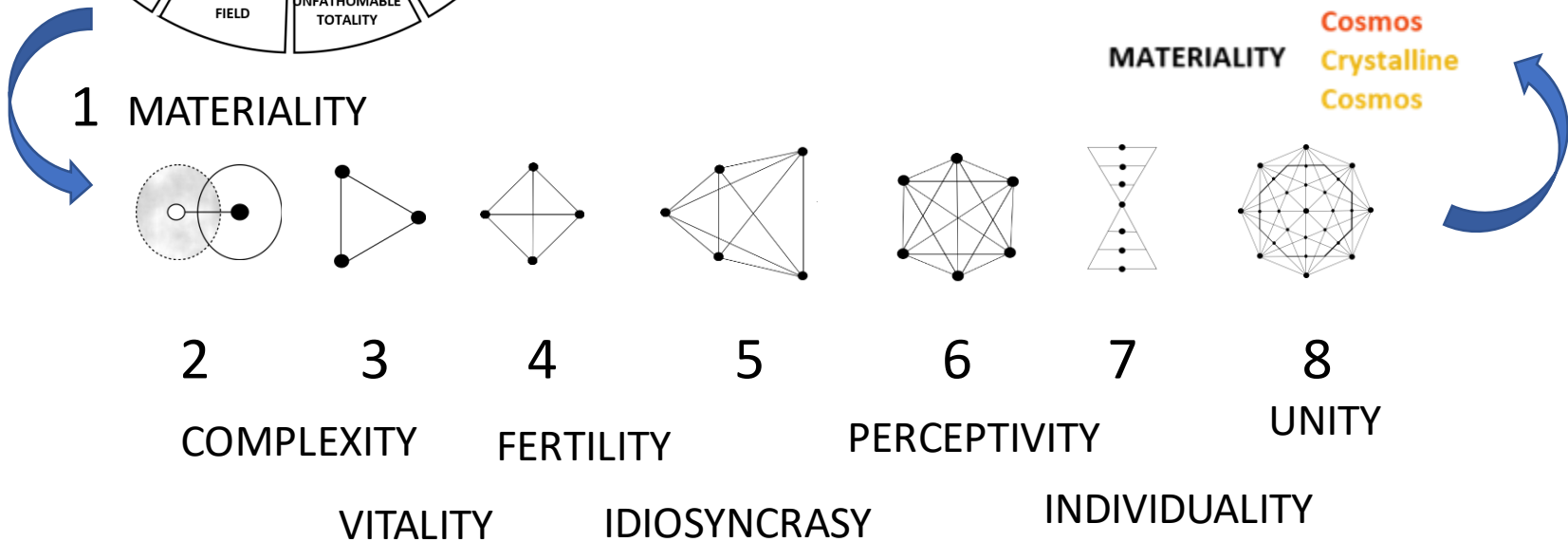
*Universe Unfolding from an Implicate Order*



# Conscious Universe Unfolding



UNITY	Undivided Cosmos
INDIVIDUALITY	Generative Cosmos
PERCEPTIVITY	Human Cosmos
IDIOSYNCRASY	Animal Cosmos
FERTILITY	Germinal Cosmos
VITALITY	Phylogenetic Cosmos
COMPLEXITY	Sustaining Cosmos
MATERIALITY	Crystalline Cosmos

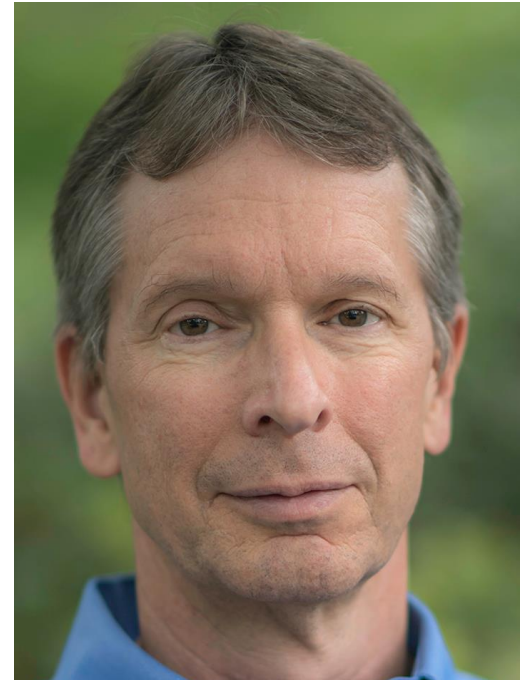


# *A Fresh Perspective from Donald Hoffman Professor of Neuroscience*

Conscious realism is a proposed answer to the question: of what is the universe is made?

Conscious realism asserts that the objective world, i.e., **the world whose existence does not depend on the perceptions of a particular observer, consists entirely of conscious agents.**

Conscious realism is a non-physicalist monism.



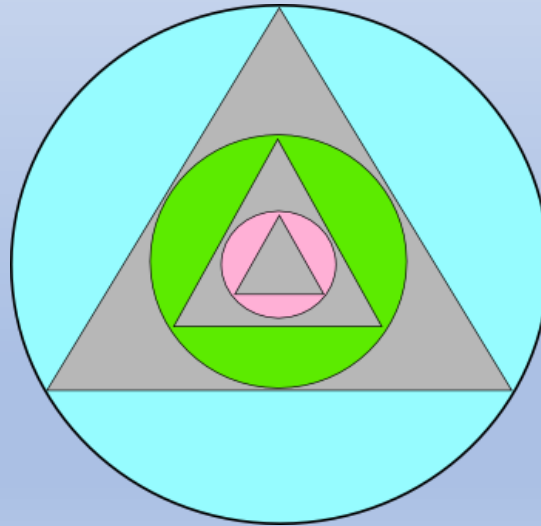
# Discussion Interlude 4

## Questions and Observations

PLENARY

# Section 5

## The Complete Cosmogenesis



# The Complete Cosmogenesis

THE INTELLIGENT  
UNIVERSE

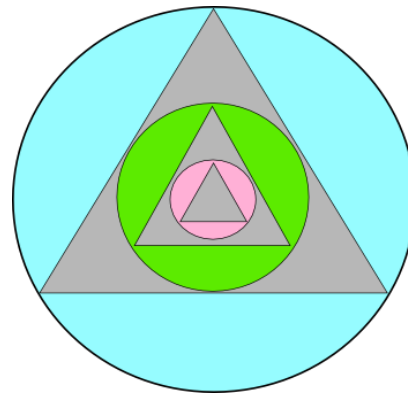
Supposes consciousness as the prime source and contains the universe

Creates the manifest universe through unfolding an implicate order

THE HYDROGEN  
UNIVERSE

Supposes a 'big bang' around 14 billion years ago

Expanding universe driven by gravity and dark matter – life and awareness a 'happy accident'



WILL >

FUNCTION >

BEING >

THE BIOCOSM  
UNIVERSE

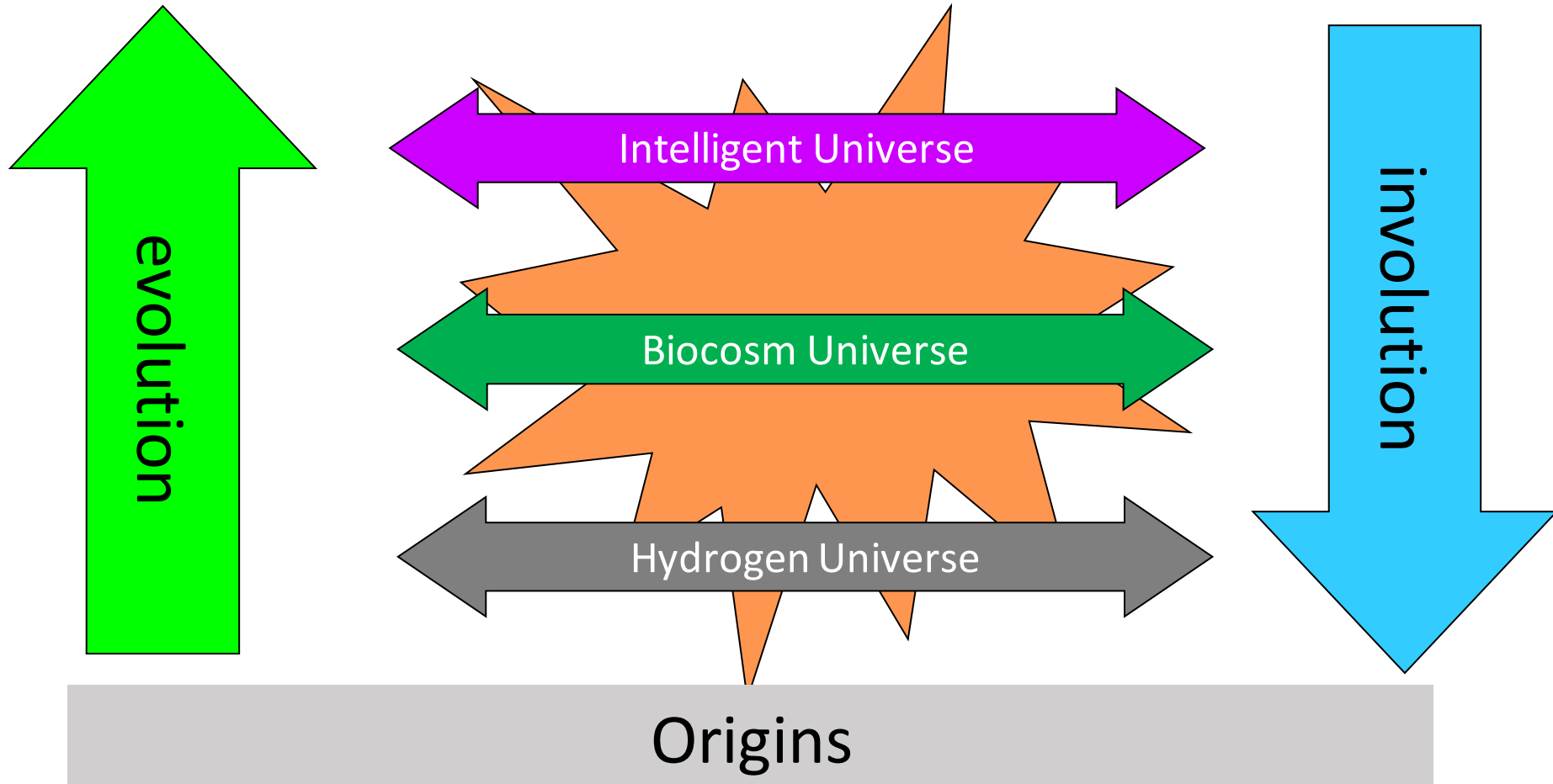
Supposes living universe that is set up to reproduce itself

Made possible by fine tuning of physical constants



# Hazard in Three Layers

Cosmic Consciousness

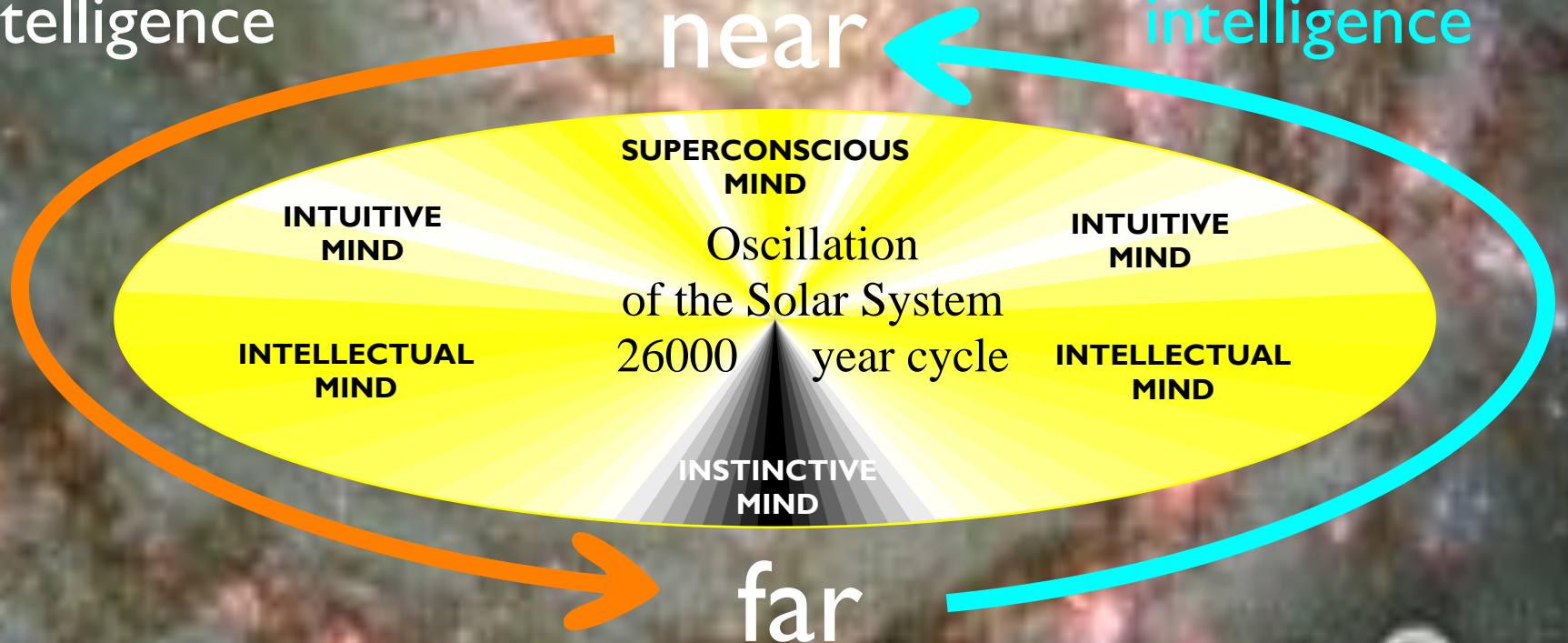




12000 years  
of reducing  
intelligence

12000 years  
of increasing  
intelligence

near



far

GALACTIC BOUNDARY

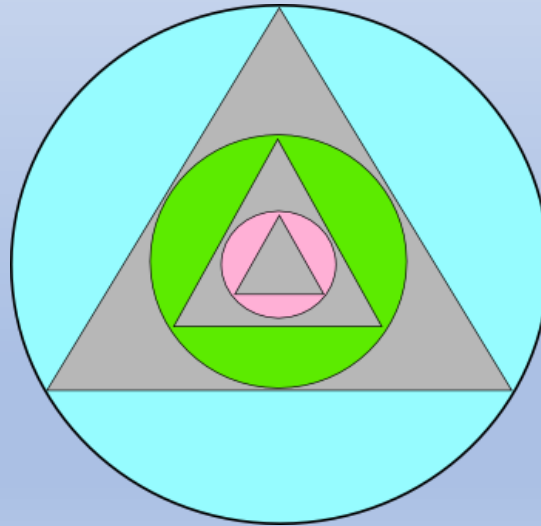
The Whirlpool Galaxy — M51 HUBBL

# Discussion Interlude 5

## Questions and Observations

PLENARY

# Conclusion



# *The Museum of Wonders*

“In the mind of every thinking person there is set aside a special room, the museum of wonders. Every time we enter that museum we find our attention gripped by marvel number one, this strange universe, in which we live and have our being. Like a strange botanic specimen newly arrived from a far corner of the earth, it appears at first sight so carefully cleaned of clues that we do not know which are the branches and which are the roots. Which end is up and which is down? Which part is nutrient-giving and which is nutrient-receiving? Man? Or machinery?”

John A. Wheeler  
Centre for Theoretical Physics  
University of Texas Austin

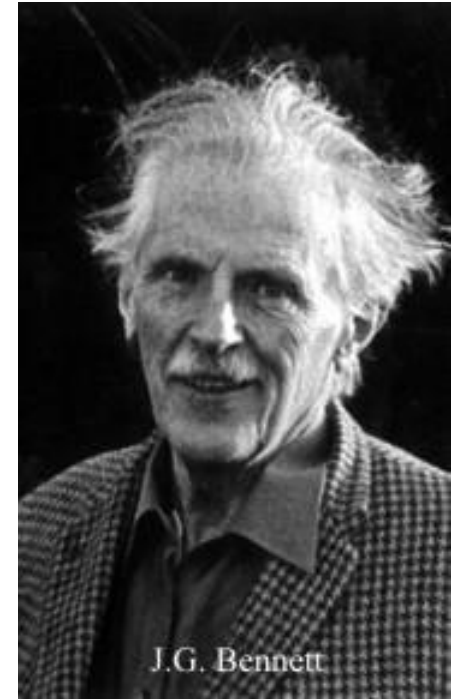
# The Deeper Search

“The search will take us out of the natural order into the realms where being and will meet with function, and the transformations concerned not only in personal energies but the very essence and individuality of man himself.

It is in the transformations of being and will that all values reside. By our study of the natural order we can become aware of the unity of all existence and even catch a glimpse of the cosmic plan we shall only find when we see the universe in its dramatic aspect, where life is seen not merely as a device for the transformation of energies but as the instrument whereby the universe becomes conscious of its own significance.”

J.G.Bennett

*The Dramatic Universe*





# Cosmic Ecology

An exploration of the cosmic significance of humanity based on the natural philosophy of J.G.Bennett and drawing on multiple sources of science and spirituality,

Part 1 – Human Beings in the Universe

Module 9 – An Evolutionary History of Humanity

Dr. Anthony Hodgson

