

EXPLORATIONS INTO THE NATURE OF CONSCIOUSNESS

A BRIEF OVERVIEW OF CONSCIOUSNESS

Bob Staretz

www.GrokingWholeness.info

2025

A VISUALIZATION EXERCISE



PURPOSE

TO FACILITATE DISCUSSION

- ▶ Establish a common vocabulary and baseline
- ▶ Hi-level review of state-of-the-art in the science of consciousness
- ▶ Raise awareness of issues, implications and coming paradigm shift

Warning: some of the contents contained within may challenge long held beliefs

WHY CONSCIOUSNESS?

“You cannot solve a problem with the same kind of thinking that got you into the problem in the first place”

Albert Einstein

“It all depends on how we look at things, not how they are in themselves”

Carl Jung

The only certainty there is in the world:

“I am conscious, therefore I am”

Rene Descartes

CHANGE OF PERSPECTIVE IS URGENTLY NEEDED

- ▶ Until the mid-19th century everything we needed to know to survive and thrive could be learned by the ripe old age of 6
- ▶ Our knowledge of the world, our instincts and our beliefs no longer serve us well; instead, they act to our detriment
- ▶ Our traditions and our institutions are based on knowledge and understanding that are woefully out of date
- ▶ Continuous growth in a finite (closed) system is unsustainable
- ▶ Today our understanding of the reality we are living in (e.g. our sciences and metaphysics) is incomplete and it has a long way to go
- ▶ The experiences we have within our reality are real but many of our interpretations of them are not
- ▶ The rate of change of human knowledge now has a half-life of 18-24 months.
- ▶ There is little time to adapt let alone plan to accommodate such rapid change



ITS ALL ABOUT UNDERSTANDING THE NATURE OF CONSCIOUSNESS



“To understand the human condition,
you must first understand the universe”

Buckminster Fuller

“If you want to understand the universe,
you must first understand the self”

Mystics and Sages of all cultures and eras

We define ourselves through our consciousness

It is the only way we know how we (and everything else) exists

SO, WHAT IS CONSCIOUSNESS?

CONSCIOUS STUDIES – A DEFINITION

- ▶ An interdisciplinary field of study that explores the nature of consciousness, its experiences and its behaviors
- ▶ It combines insights from philosophy, neuroscience, psychology, spirituality and other related fields.
- ▶ It seeks to understand all aspects of consciousness, including
 - ▶ External (objective) experiences (perceptions) and
 - ▶ Internal (subjective) experiences (thinking, emotions, feelings, etc.,)
 - ▶ Interactions between subjective and objective experiences
 - ▶ Relationships (correlations) between brain activity within and between all experiences.

WITHOUT CONSCIOUSNESS

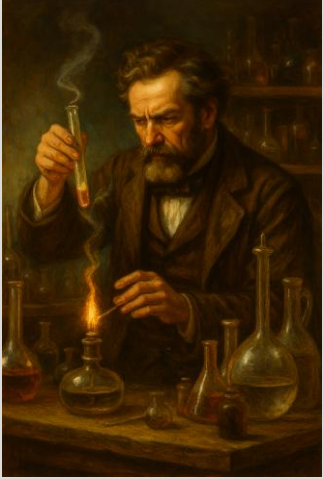
There would be no knowing and no existence

Consciousness is what goes away when we are under anesthetics or enter dreamless sleep

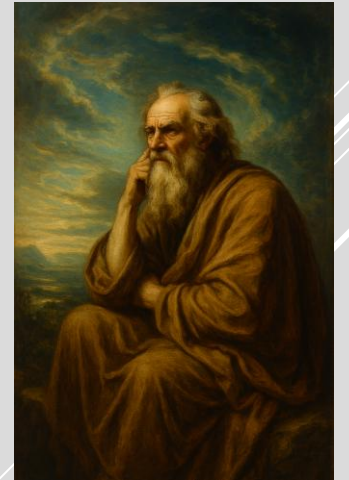
No me No friends No environment No objects
No time No space No memories No colors
No present No future No past No emotions
No sights No sounds No thoughts No tastes No sensations
No dreams No smells

Consciousness is “what it is like to have experience (to be)”

A COUPLE OF DEFINITIONS

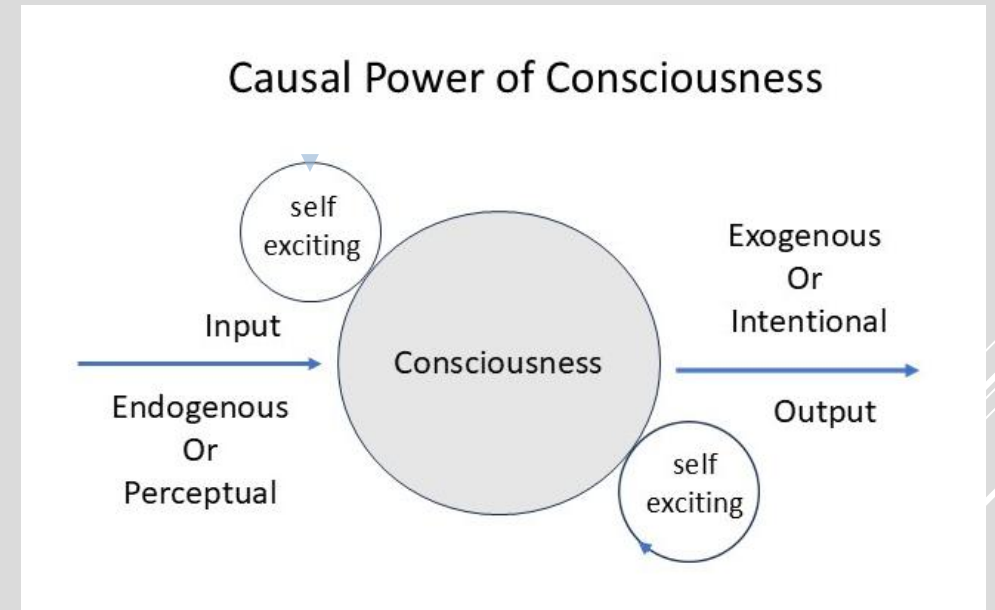


- ▶ Science – the study of how nature behaves
 - ▶ Based on experiments
 - ▶ Predictive models
- ▶ Metaphysics – the study of what something actually is
 - ▶ Based on philosophy
 - ▶ Logic and reasoning
- ▶ We will look at both to understand consciousness



SO, WHAT IS CONSCIOUSNESS?

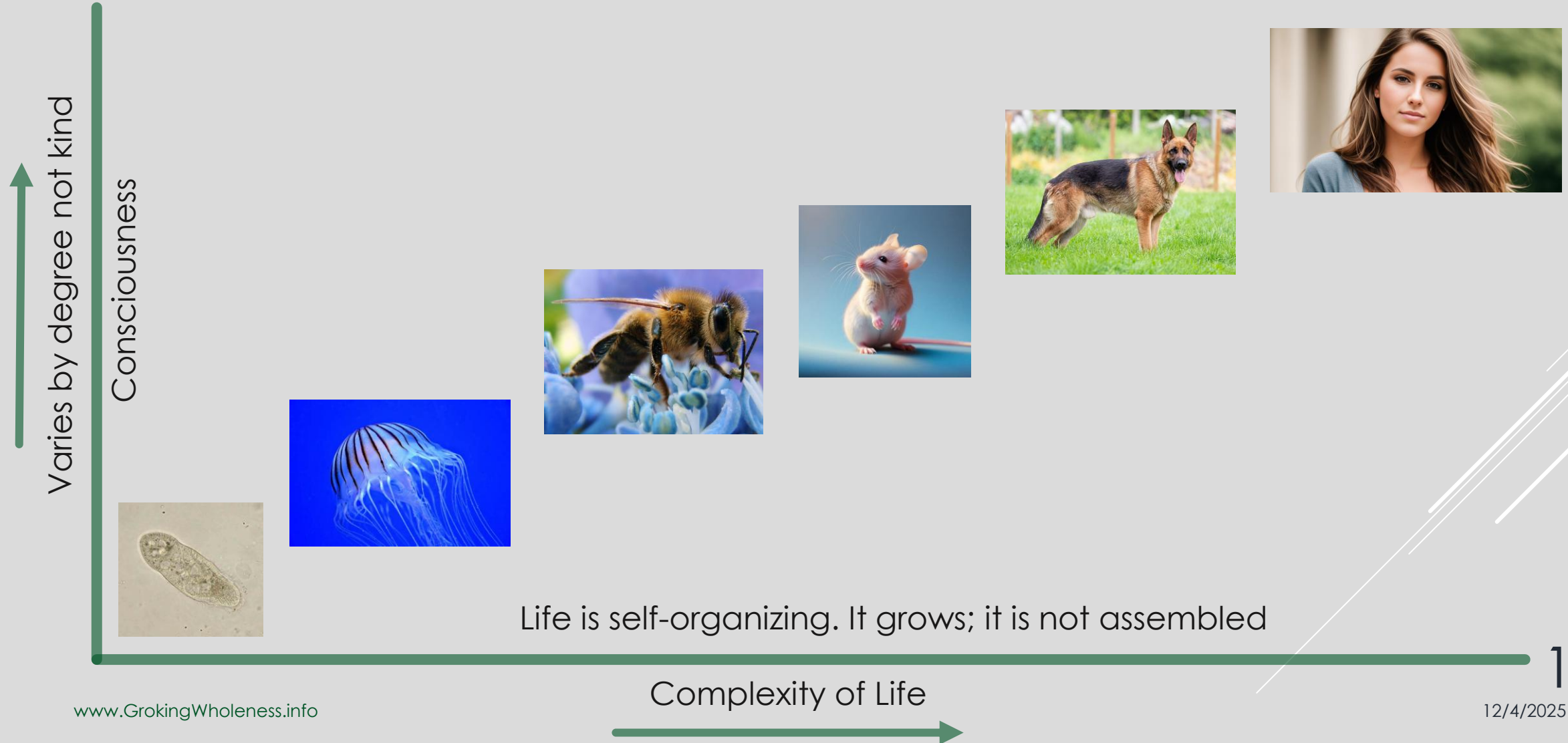
- ▶ Two Aspects
 - ▶ A state of being = phenomenal consciousness
 - ▶ Self reflection = meta consciousness
- ▶ Consciousness = Experience (state of being)
- ▶ Intelligence ≠ Consciousness (state of doing)
- ▶ 2 Major Theories
 - ▶ Consciousness is an epiphenomenon
 - ▶ Consciousness is a fundamental aspect of reality



*I think,
therefore I am*

*I move (act),
therefore I am*

CONSCIOUSNESS & LIFE ARE INTRICATELY CONNECTED



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CONSCIOUSNESS MEDITATION



HISTORIC MILESTONES IN CONSCIOUSNESS

- ▶ Ancient eastern traditions (circa 1500 BC)
- ▶ Council of Constantinople (381 AD) – The Holy Spirit
- ▶ Circa 1640 Rene Descartes – Mind-Body Dualism
- ▶ Early 20th Century – Quantum physics conundrum – Sir James Jeans
- ▶ 1973 – IONS Founded (from epiphany in space)
- ▶ 1974 – Thomas Nagel “What is it Like to be a Bat”
- ▶ 1994 – Journal of Consciousness Studies
- ▶ 1995 – David Chalmers “The Hard Problem of Consciousness”
- ▶ Early 2000s – Active debates about the nature of reality & consciousness
- ▶ Present Day theories
 - ▶ Physicalism vs Consciousness
 - ▶ Overcoming inertia



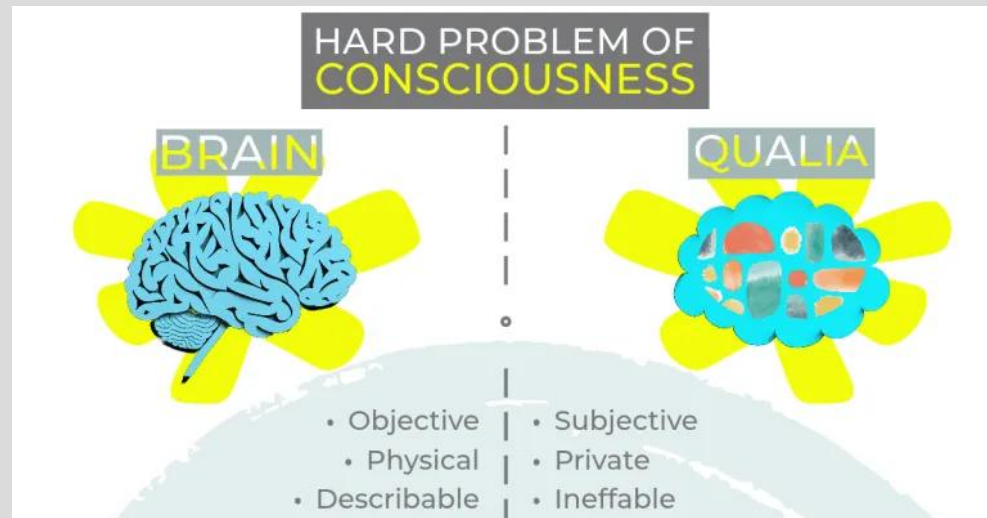
The study of the nature of consciousness is at least 3500 years old

THE HARD PROBLEM OF CONSCIOUSNESS

- ▶ The Hard Problem (according to Physicalism)
 - ▶ How can physical processes in the brain give rise to subjective experience (“what something feels like”)?
 - ▶ Why are we not “Zombies” (have no conscious experience)
- ▶ The Easy Problem
 - ▶ How the mind integrates information or produces reports about mental states



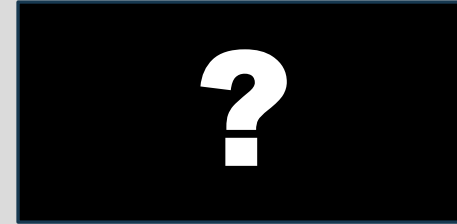
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SPECTRUM OF CONSCIOUSNESS

1. Unconsciousness

- ▶ No existence
- ▶ No experience (deep sleep, anesthetics)*



2. Phenomenal Consciousness – all living organisms

- ▶ Existence; “to experience”
- ▶ Subjective (conscious) Experience
- ▶ Awareness / Intentionality (casual power)
- ▶ “What it is like to be/do”
- ▶ To know/to intend



3. Meta Consciousness – living organisms with a brain

- ▶ Re-representation (self-reflection) of experience
- ▶ Ability to evaluate, analyze, plan
- ▶ To know that you know or intend
- ▶ Experience/intention are reportable

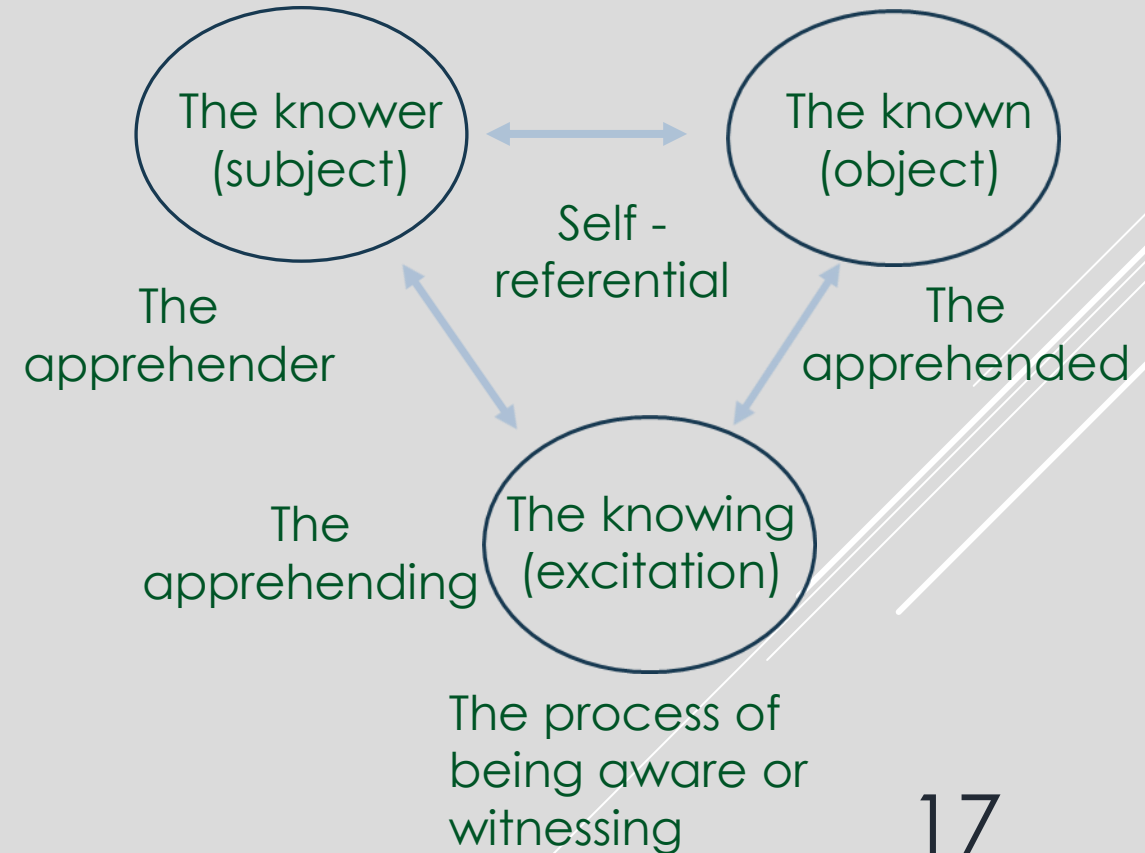


THE PERSPECTIVES OF CONSCIOUSNESS

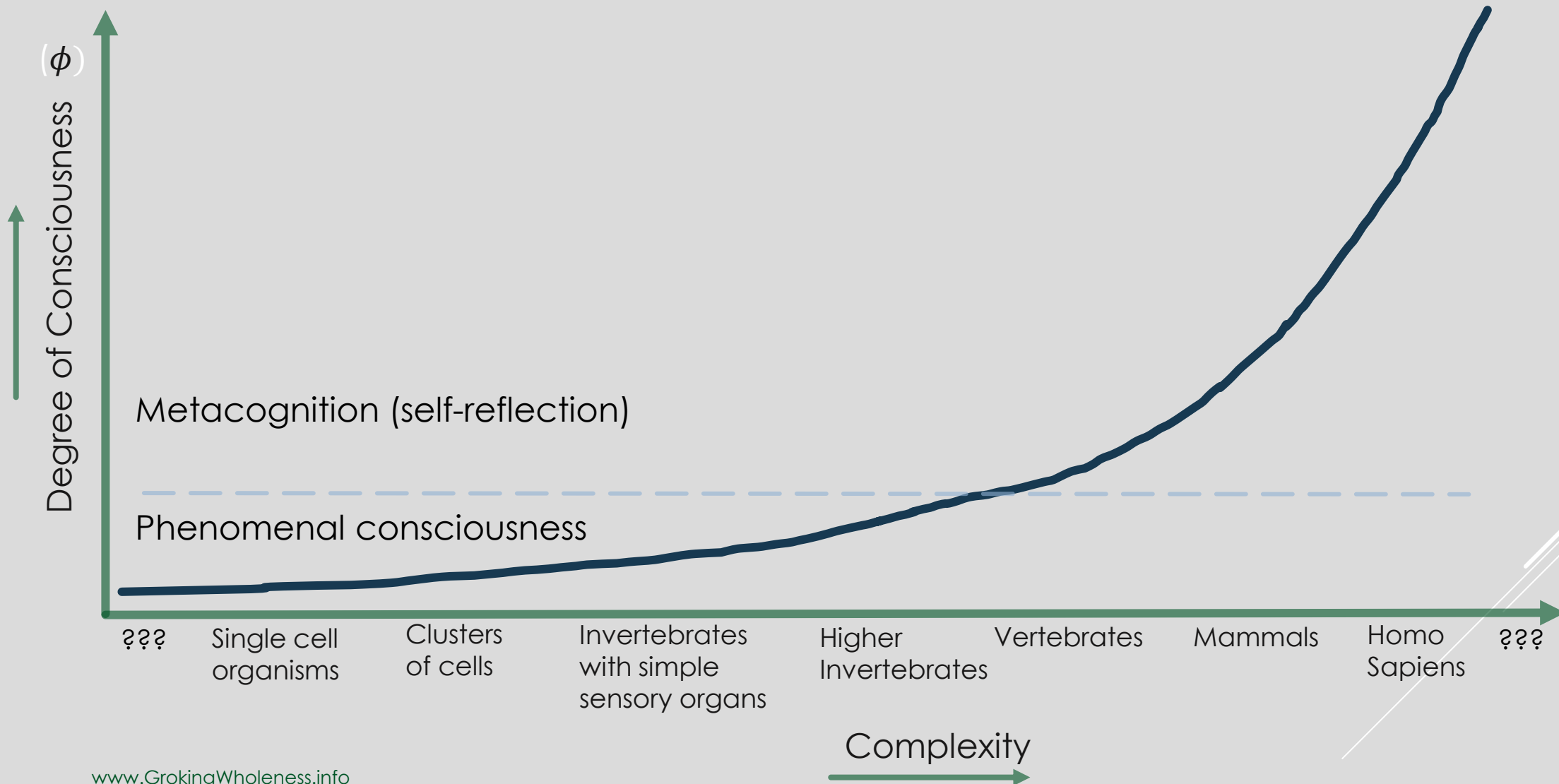
- ▶ Consciousness vs content of consciousness
- ▶ It has three aspects
 - ▶ The Experience (knower/observer)
 - ▶ Subject - the doer;
 - ▶ The Experiencing (knowing/observing)
 - ▶ Process/Mechanics
 - ▶ The Experienced (known/observer)
 - ▶ Object (that which is being done to; can be self-referential)
- ▶ It has causal power
 - ▶ The ability to affect change for itself or for others
- ▶ It is non-computational
- ▶ It is a state of being

That which is aware / the witness

That which is the object of awareness or that which is witnessed



SPECTRUM OF CONSCIOUSNESS



CONSCIOUSNESS ≠ BEHAVIOR

- ▶ Behavior may imply consciousness
 - ▶ External stimuli
 - ▶ Looking for opportunities
 - ▶ Avoiding threats
 - ▶ Pursuing desires
 - ▶ Being alert
 - ▶ All voluntary acts
- ▶ Being conscious does not imply behavior
 - ▶ Internal focus
 - ▶ Visualizing /planning
 - ▶ Intending
 - ▶ Dreaming
 - ▶ Meditating
 - ▶ Mystical/transcendental experience
 - ▶ Behavioral unresponsive ("locked in")



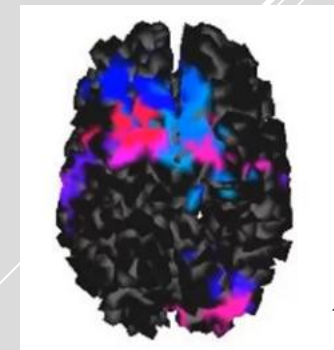
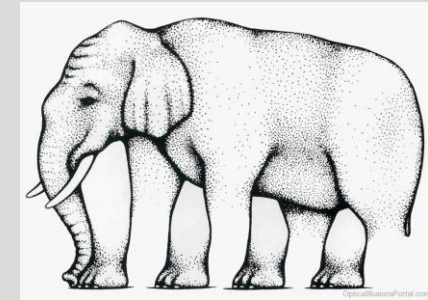
ASPECTS OF MIND

- | | AI | Life |
|---|----|------|
| ▶ Memory | ↓ | ↓ |
| ▶ Information store of experience | | |
| ▶ Information | | |
| ▶ Patterns of matter or energy or | | |
| ▶ Symbolic representations | | |
| ▶ Intelligence (doing) | | |
| ▶ Measurable (Objective) | | |
| ▶ Ability to set and reach goals | | |
| ▶ Pattern recognition, analysis & matching | | |
| ▶ Computational (problem solving) | | |
| ▶ Consciousness (being) | | |
| ▶ Metaphysical | | |
| ▶ Phenomenal (Subjective) | | |
| ▶ Instinctive (archetypical) | | |
| ▶ Metacognitive & self-reflective | | |
| ▶ Assigns meaning to information (i.e. understanding) | | |
| ▶ Computationally irreducible | | |

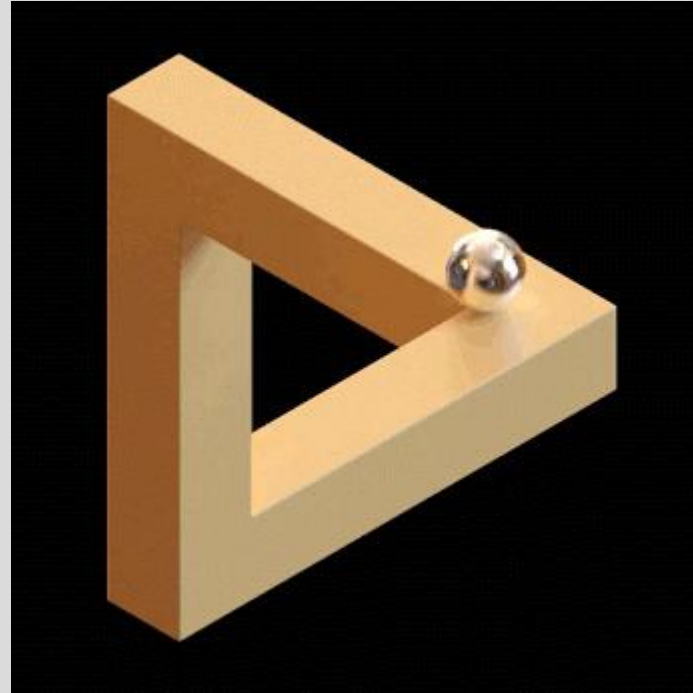
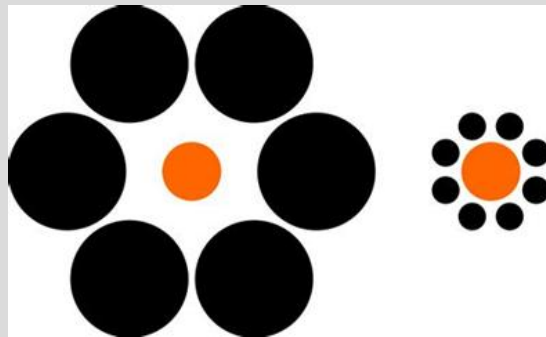
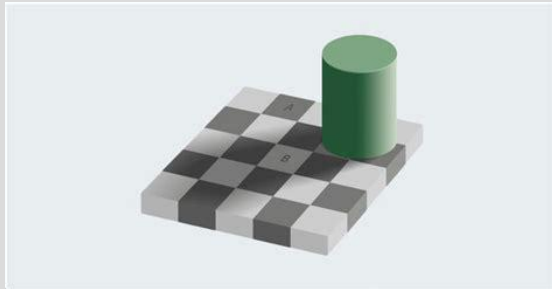
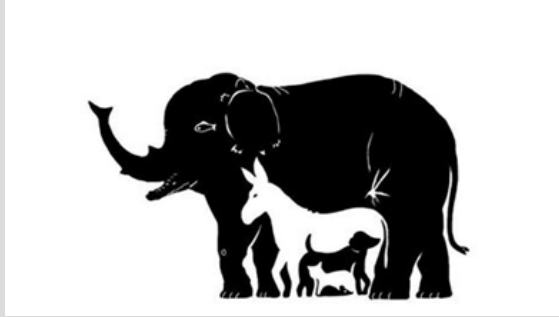


(EGO) MIND

- ▶ Experience as a unity of conscious experience
 - ▶ Computationally irreducible
- ▶ Does a great job at deceiving itself
 - ▶ Representations of external reality
- ▶ A collective of meta-conscious and phenomenal complexes
 - ▶ Most are not in meta-conscious awareness
 - ▶ Only one is in control at any given instant
- ▶ Physical correlates of subjective awareness
 - ▶ Correlates with centers of brain function & processes
 - ▶ Neural Correlates of Consciousness (NCCs)
 - ▶ Correlation does not imply causation
- ▶ Includes memories as well as conscious states



THE (EGO) MIND LOVES TO DECEIVE ITSELF



We all experience external reality differently

MEMORY – IT'S NOT WHAT YOU THINK

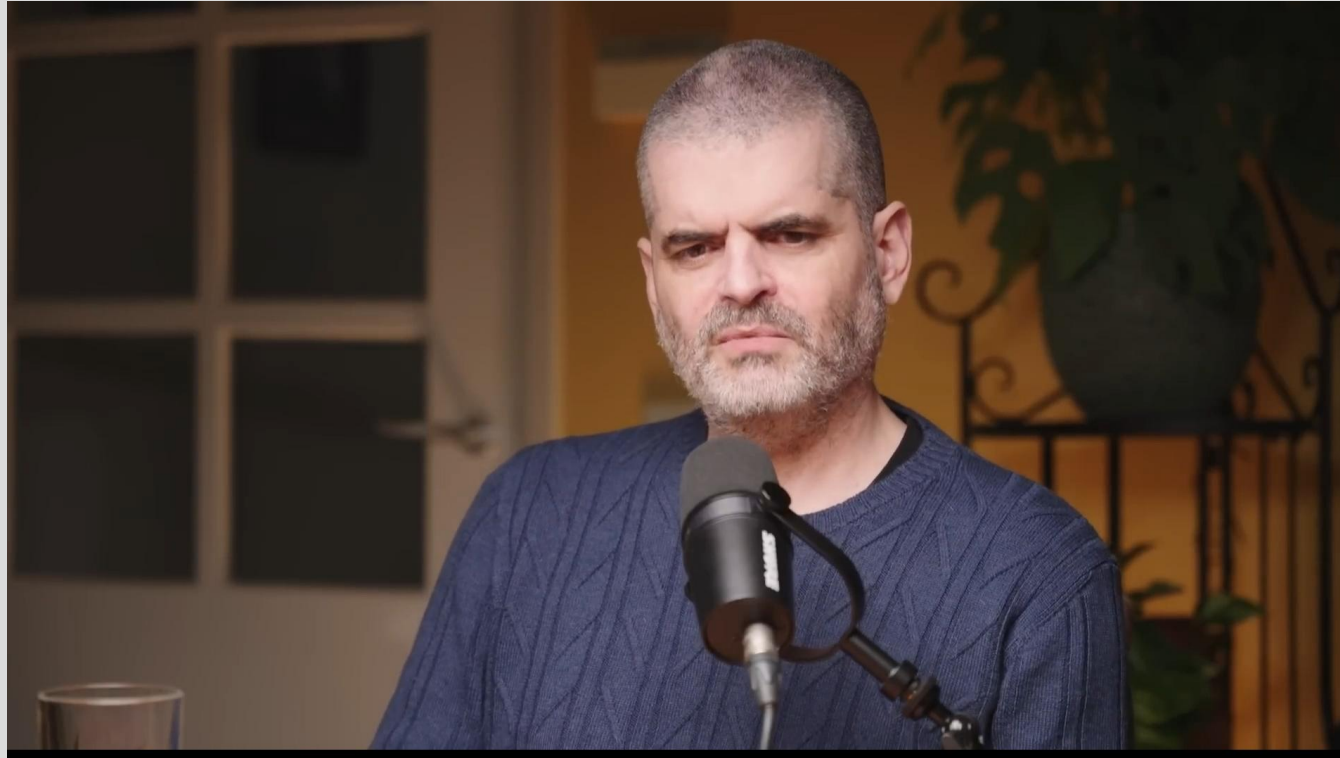


► New Developments

- Recent experiments in biology
- Organ transplant surgery
- Episodic memory in savants

- Container of the entire event history of your life experience
- Retrieval takes place through the appropriate cognitive associations
- Content is about what was experienced; not what existed in reality
- Recent evidence suggests that it may not be stored within the brain

WHERE IS MEMORY STORED?



Excerpted from YouTube Video “*The Research That Rethinks Neuroscience & Biology* | Dr. Bernardo Kastrup” – Essentia Foundation
Discussing Michael Levin’s work at the Allen Biology Research Lab at Tufts University

EXTRAORDINARY COGNITIVE ABILITIES

- ▶ Synesthesia
 - ▶ Sensory Crossover
- ▶ Savant Syndrome
 - ▶ Exceptional talents accompanied with profound mental impairments
- ▶ Hyperthymesia
 - ▶ Extensive autobiographical memory
- ▶ Photographic memory
 - ▶ Exceptional recall of pictures, words and events
- ▶ Intuition (6th sense)
 - ▶ The ability to instantly sense and/or understand something
- ▶ Terminal Lucidity
 - ▶ End-stage dementia experiences a sudden burst of energy and clarity
- ▶ Mystical Experiences
 - ▶ Expanded state of awareness and connectedness
- ▶ Psi Phenomenon
 - ▶ Abilities that transcend known laws of physics or are acquired through means other than normal perceptual mechanisms



Raven Paradox - “*all ravens are black*” - supports how empirical evidence can support universal generalizations

THE EXTRAORDINARY WORLD OF HYPERTHYMESIA

Neuroscience

<https://www.youtube.com/watch?v=A9vUBzlwWr0>

THE MAN WHO SUFFERED INJURY AND BECAME A “PIANO SAVANT”



<https://www.youtube.com/watch?v=r0h4cylQd2g>

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PART 3

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INTROSPECTION MEDITATION



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INSTINCTS (ARCHETYPICAL BEHAVIORS) & BELIEFS

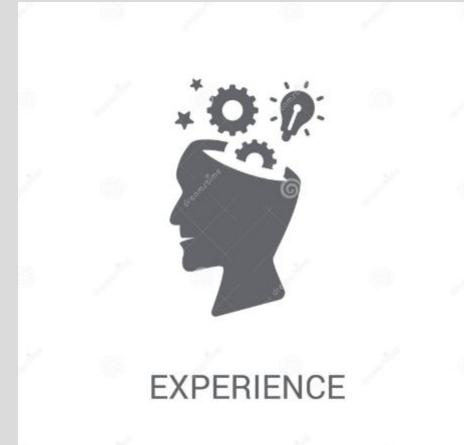
- ▶ Nature's motivators and survival mechanisms for a stable planetary ecosystem
 - ▶ Instincts are inherited behaviors (archetypical)
 - ▶ Beliefs are learned behaviors
- ▶ Beliefs are reenforced through repetition
 - ▶ Results from memories of prior experience
 - ▶ Often enculturated at an early age
 - ▶ Solidified over time w/o proper reflection
- ▶ Established beliefs are difficult to change
 - ▶ A person's identity is often tied up in their beliefs
- ▶ Operate at the level of phenomenal consciousness
 - ▶ Usually not self-reflective
 - ▶ Very quick reaction time
- ▶ Can be overcome but require considerable metacognitive effort and reconditioning
- ▶ Cultivators – events experienced with a strong emotional context and/or by reinforcement
 - ▶ Anger / Fear / Pain / etc.
 - ▶ Love / Joy / Pleasure / etc.



CATEGORIES OF EXPERIENCE

Experience  “What something feels like”

1. Perceptual (external – objective – 3rd person)
 - ▶ Sense organs involved
2. Endogenous (internal – subjective – 1st person)
 - ▶ Thinking, Emotions, Feelings, Intuitions, Imagination, Instincts, Memories



Experiences are self-excitations (e.g. the behavior) of consciousness

Experiences are qualitative not quantitative

All experiences exist for themselves and have causal power

All subjective experiences are personal to that which is having the experience

QUALITIES OF PERCEPTUAL OBJECTIVE (EXTERNAL – 3RD PERSON) EXPERIENCES

- ▶ Spatial extendedness
- ▶ Temporal flow
- ▶ Objective (3rd person viewpoint)
- ▶ Colors
- ▶ Sounds
- ▶ Smells
- ▶ Textures
- ▶ Tastes
- ▶ Etc.



The variations of these experiences probably number in the quintillions (10^{18}) or more

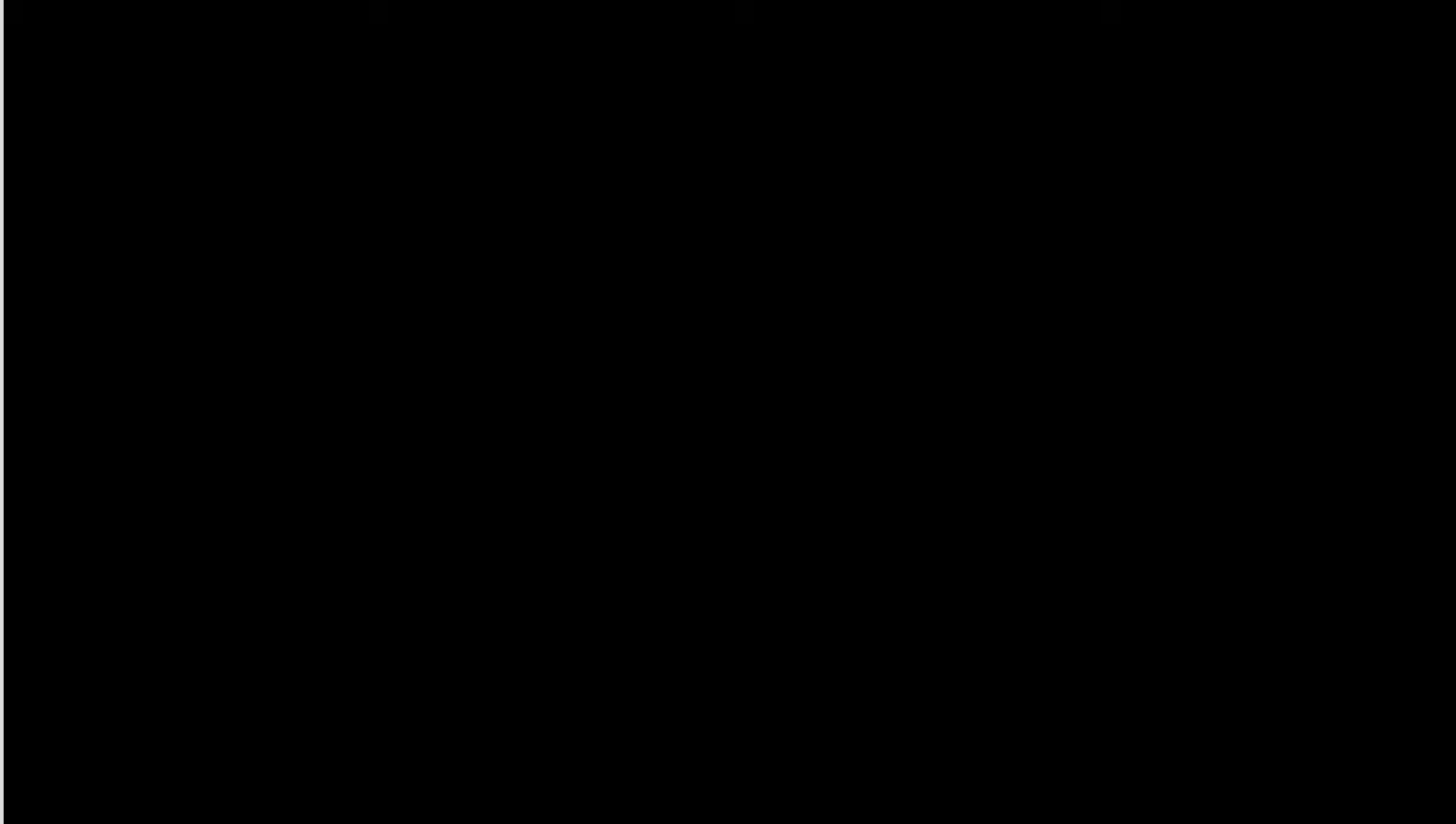
The mind filters and acts as a reducing valve to all external experiences

External experiences are shared experiences

Interpretations of experiences vary based on beliefs & prior experiences

They are usually described by quantities

PERCEPTION BOX



YouTube – What is Perception Box? – www.TinyBlueDotFoundation.org

PERCEPTUAL REALITY IS AN INTERFACE



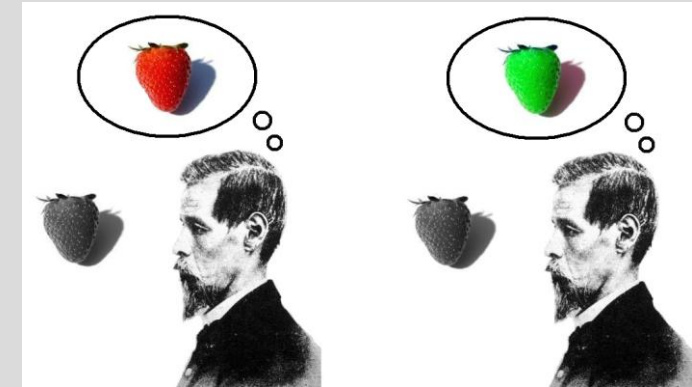
- ▶ Entropy overload
- ▶ Symbolic representations of what nature is
- ▶ A 3rd person view of external reality
- ▶ Reducing valve
- ▶ Focus on survival not max info
- ▶ It is impossible to separate perception and interpretation (max Φ)



“We don’t experience Nature as it is
We experience Nature as we are”

QUALITIES OF ENDOGENOUS SUBJECTIVE (INTERNAL) EXPERIENCES

- ▶ Pure subjectivity (1st person viewpoint)
 - ▶ Experience is private
 - ▶ Conveys or provides meaning to experience
 - ▶ Shaped by archetypes (mental properties)
 - ▶ Cannot be described by quantities (or words)
 - ▶ Specious present (stream of consciousness)
- ▶ Pure Awareness / Intentionality
 - ▶ Exists for itself
 - ▶ Self exciting
 - ▶ Agency (has causal powers)



THE QUALITIES OF ENDOGENOUS (SUBJECTIVE – 1ST PERSON) EXPERIENCE

- ▶ The color green
- ▶ The smell of a rose
- ▶ The taste of chocolate
- ▶ The pain of a toothache
- ▶ The feeling of love
- ▶ The beauty of a sunset
- ▶ The feeling of fear
- ▶ The feeling of boredom
- ▶ Bodily sensations
- ▶ Desiring
- ▶ Dreading
- ▶ Imagining
- ▶ Etc.



Physicalist science has no good explanations as to how felt experiences (i.e. qualities) are generated by the brain (e.g. the “hard problem” of consciousness)

SUBJECTIVE EXPERIENCES & INTERPRETATIONS



The actual event
- Fire engine siren



Thinks of a
police car



Hard of hearing -
Thinks of nothing



Frightened by a
loud unfamiliar noise



Thinks of the hook
& ladder from
firehouse #3

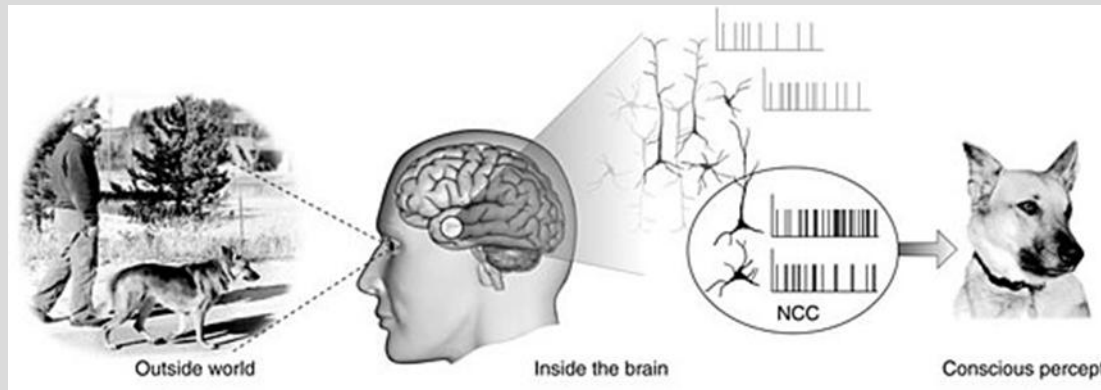
Perceptions are interpreted and based upon instinct, beliefs and prior experiences

Perceptions cannot be separated from interpretation and vice versa (Maximum Φ)

NEURAL CORRELATES & COMPLEXES OF CONSCIOUSNESS

Every specific conscious experience is associated with an NCC

Collections of NCCs make up a conscious complex



Qualia \equiv instances of specific subjective experiences

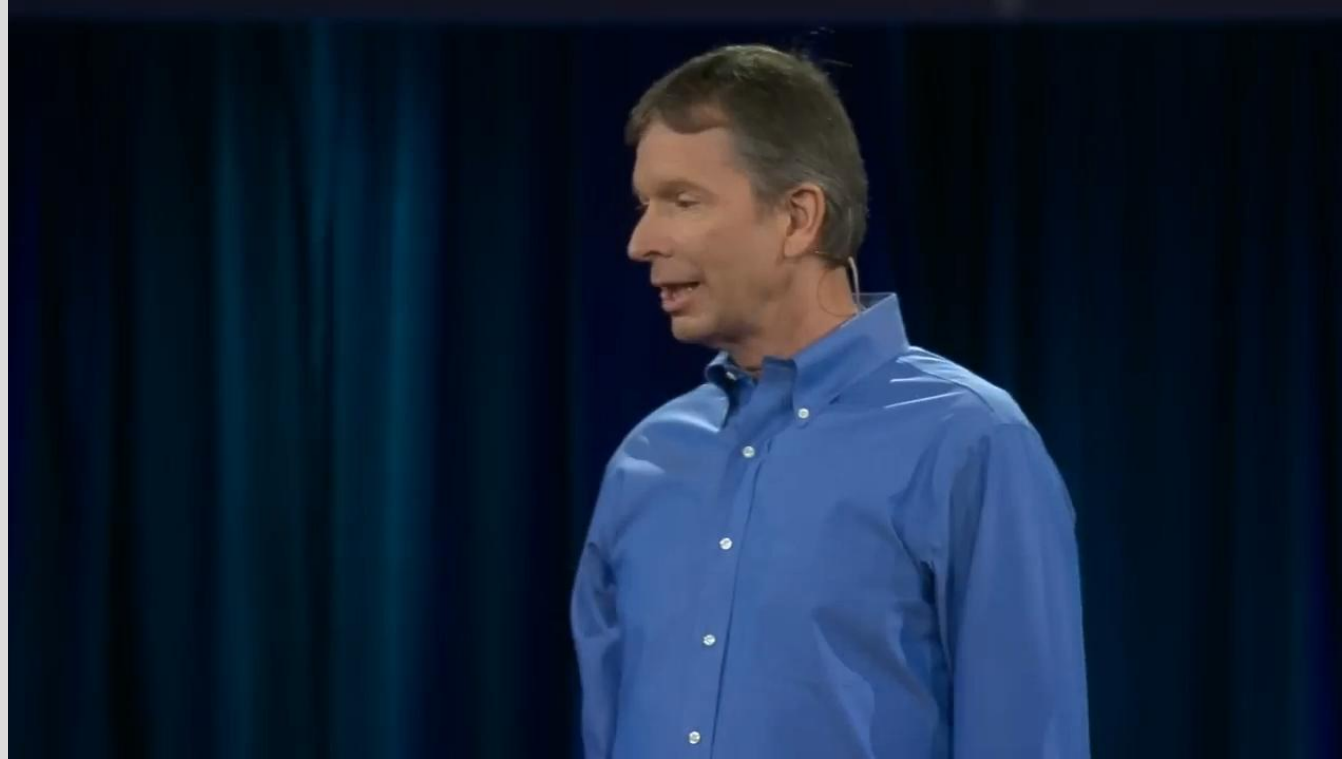
THE NEURAL CORRELATES OF CONSCIOUSNESS



What Are Neural Correlates Of Consciousness? - Neurotech Insight Pro:
<https://www.youtube.com/watch?v=w78pzEc-IBQ>

Correlation does not imply causation

DO WE SEE REALITY AS IT IS? | DONALD HOFFMAN



TED Talk: <https://www.youtube.com/watch?v=oYp5XuGYqqY>

EXPLORATIONS INTO THE NATURE OF CONSCIOUSNESS

A BRIEF OVERVIEW OF CONSCIOUSNESS

PART 4

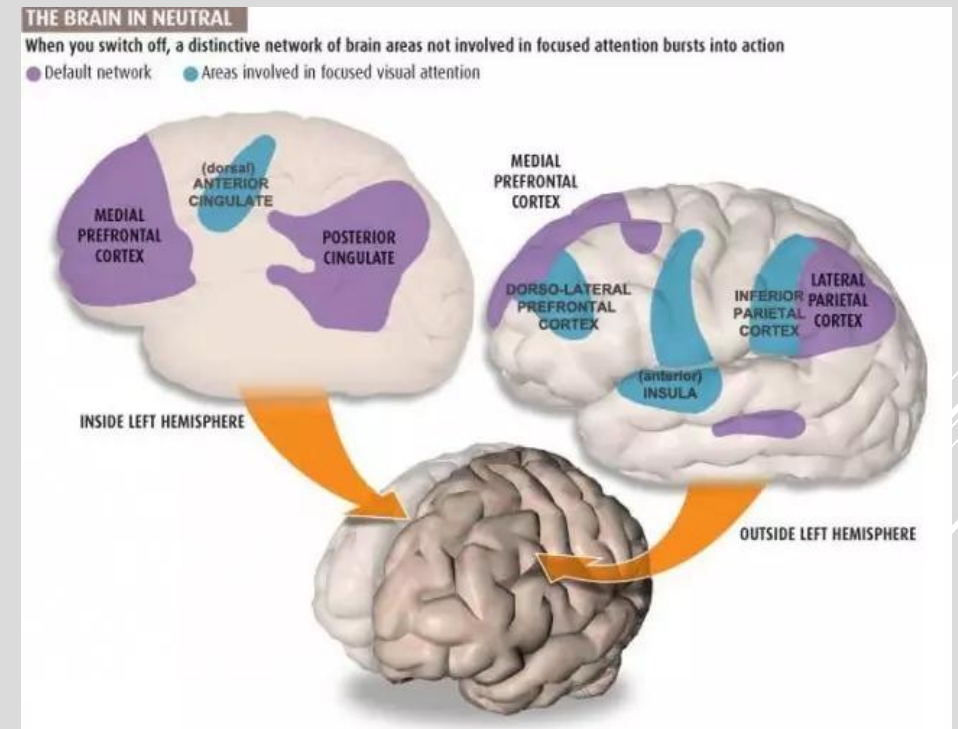
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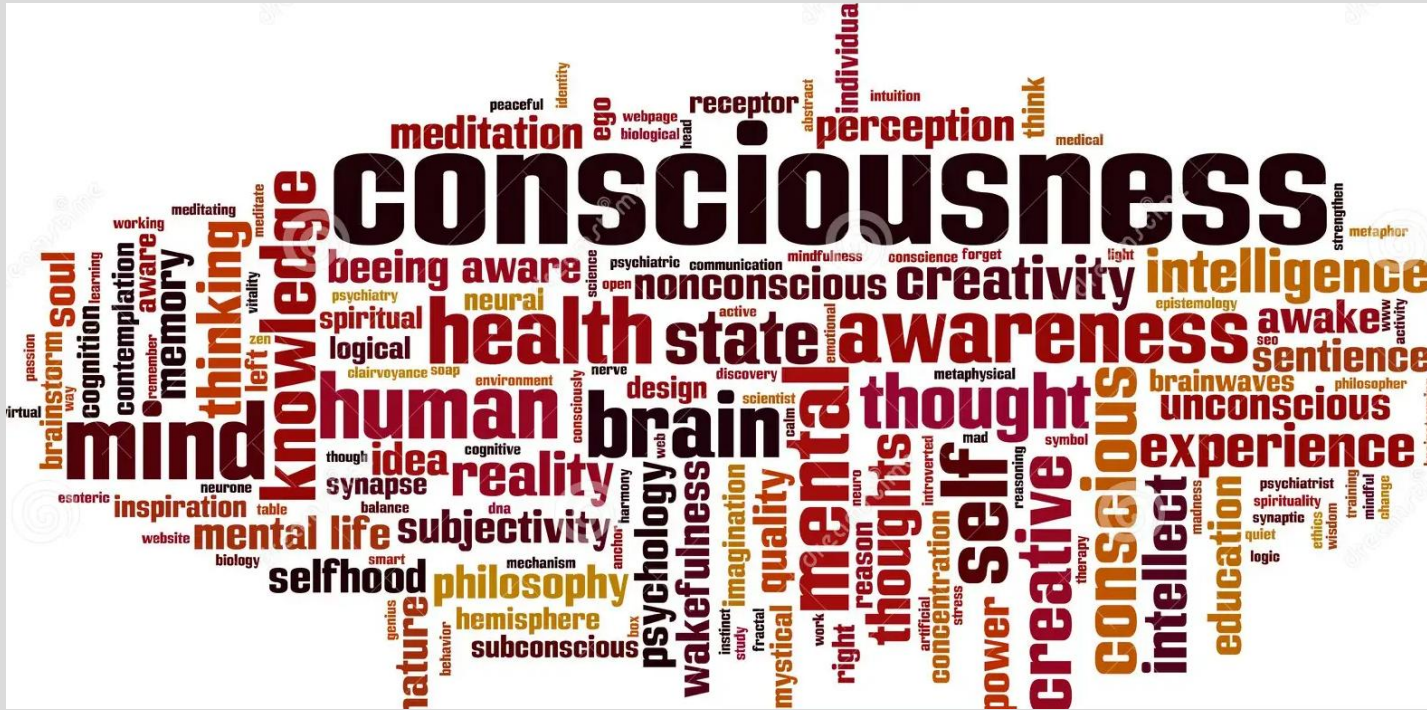
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THE DEFAULT MODE NETWORK (DMN)

- ▶ A large-scale network of the brain that become active when you are awake but **not** focused on the outside world
 - ▶ No perceptual mechanisms active
 - ▶ Mind wandering
 - ▶ Day dreaming
 - ▶ Self-referential thought
 - ▶ Autobiographical memory
 - ▶ Thinking of the past or the future
- ▶ Activity of DMN reduces during altered states
 - ▶ Deep meditation
 - ▶ Psychedelics
 - ▶ Transpersonal
 - ▶ Demanding externally focused tasks that require sustained attention



CONSCIOUSNESS MEDITATION



CHARACTERISTICS OF EXPERIENCE

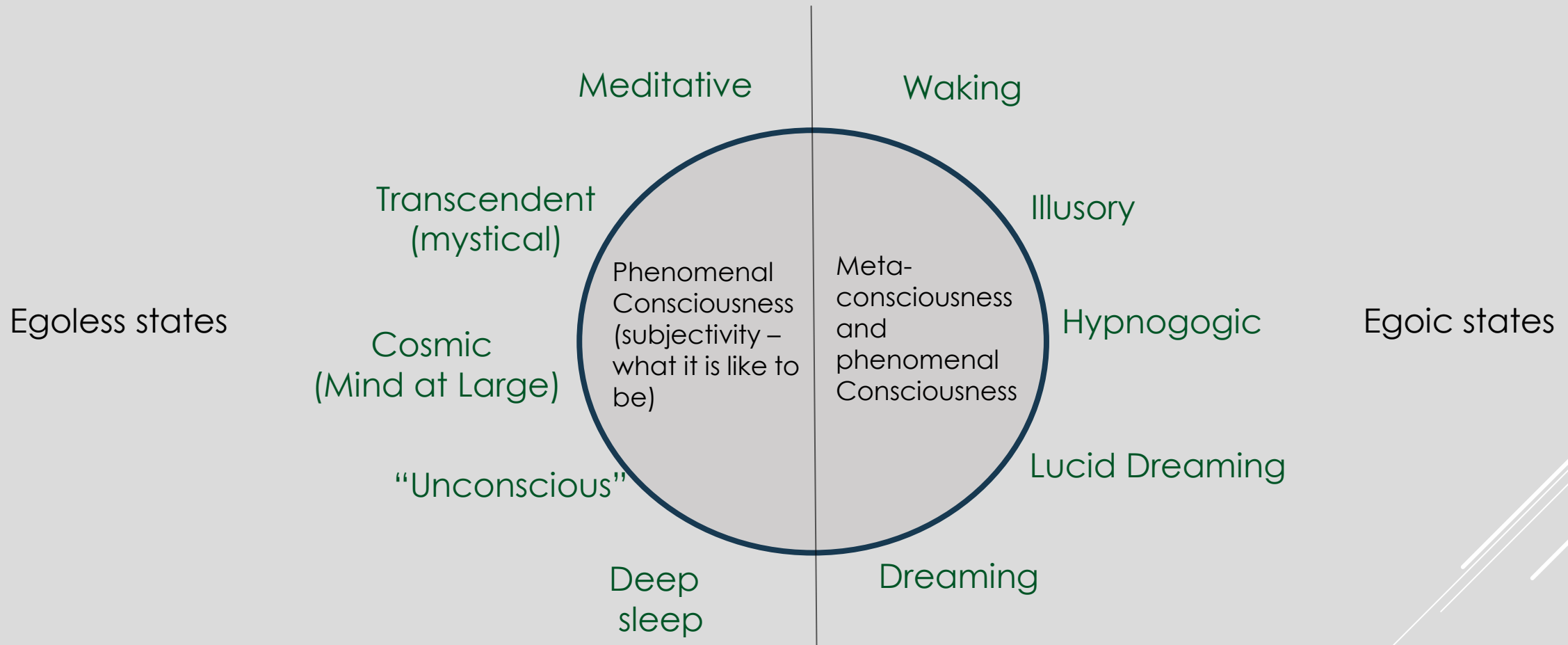
- ▶ Unitary and holistic
- ▶ Exists for itself
- ▶ Excitations are self-activating
- ▶ Has agency (causal power) to influence its own and other states
- ▶ Influenced by other states

Experience is the behavior of the thing that is experiencing (e.g. consciousness)



Consciousness is a state of being – it is not a computation

STATES OF EXPERIENCE



Depth and richness of experience varies by state

TRANSCENDENT/MYSTICAL CONSCIOUSNESS

- ▶ Ground state of Being
 - ▶ Egoless and formless
 - ▶ Boundless in space and time
 - ▶ Infinite in awareness and knowing
 - ▶ Feelings of Oneness, knowingness & Interconnectedness
 - ▶ Feelings of profound peace, bliss and joy
- ▶ Induced by
 - ▶ Deep meditation
 - ▶ Vastly altered perspectives from ordinary
 - ▶ Altered states (NDEs, OBEs, etc.)
 - ▶ Psychedelics
- ▶ Brain activity is greatly reduced during the experience
 - ▶ Reduction in normal barriers to Universal Consciousness



THE EXPERIENCE OF TRANSCENDENCE

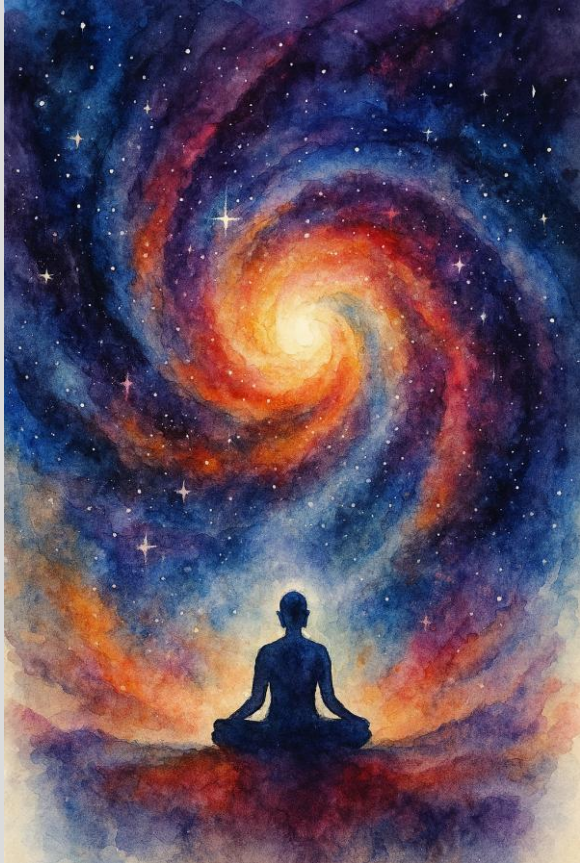
Excerpt from "then I am myself the world" – by Christof Koch

I ceased to exist in any recognizable way, shape or form. No more Christof, no more ego, no more self; no memories, dreams, desires, hopes, fears – everything personal was stripped away. Nothing was left but a non-self; this remaining essence wasn't a man, woman, child, animal, spirit or anything else; it didn't want anything, expect anything, think anything, remember anything, dread anything.

But it experienced. Did it ever.

It saw a point of cold white light of unbearable intensity, unable even to conceive of looking away, as there was no "away from." There was no left or right, up or down, front or back, far away or close by. There wasn't a black canvas upon which the light existed, as there was no space. There were no other attributes: no color, no motion, no texture, no sound or silence, no smell, no body, no pleasure, no pain. What there was, was a timeless universe convulsed to a blazing, icy light. That and a profound feeling of both terror and ecstasy, the awfulness of pure experience lasting indefinitely – for there was no perception of time. The experience wasn't brief or long. It simply was.

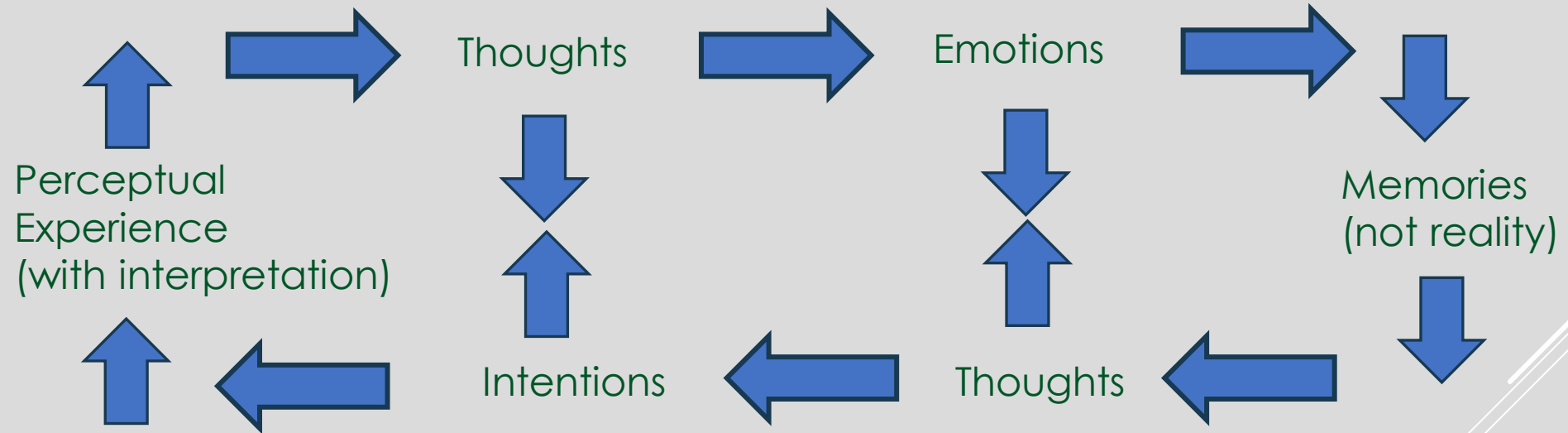
A PERSONAL EXPERIENCE



*"All perceptions and imaginations cannot describe
That which only can be experienced.
The ecstasy and the terror of it.
A peek of Divine essence.
Beyond imagination.
More real than real.
Timeless and boundless.
The Oneness of what we are,
Unlimited in knowing, pure in bliss and in unconditional love.
Nothing and everything and yet the essence of all that exists."*

SUBJECTIVE EXPERIENCE AND MEMORY INTEGRATES BY ASSOCIATION

Collection of conscious complexes made up of conscious agents
(a network of self excitations which cannot be predicted)

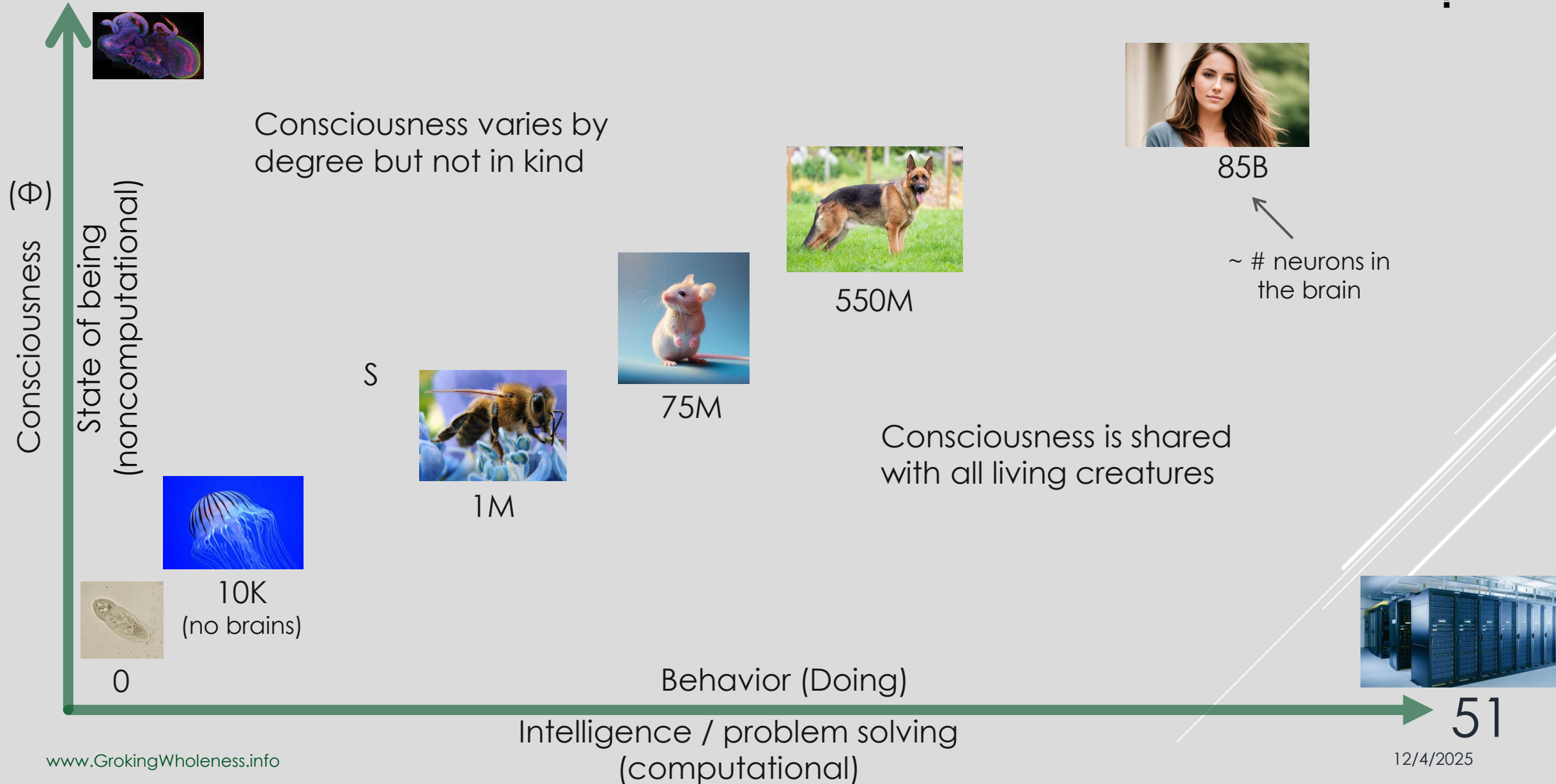


Order and interactions will vary based on cognitive associations & attention

Recurring associations tend to become habits of behaviors

CONSCIOUSNESS VS INTELLIGENCE

?

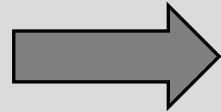


THREE ASPECTS OF INTELLIGENCE (VIA COMPUTATION)

- ▶ Analytical
 - ▶ Recognizing problems and solving them
 - ▶ Pattern matching & symbolic processing
 - ▶ Computational
- ▶ Creative
 - ▶ Innovation (via pattern matching)
- ▶ Practical
 - ▶ Application of knowledge (statistical estimation)

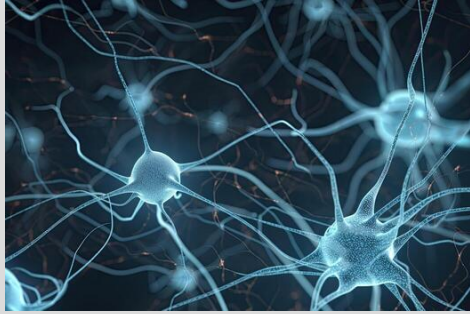


Higher Intelligence

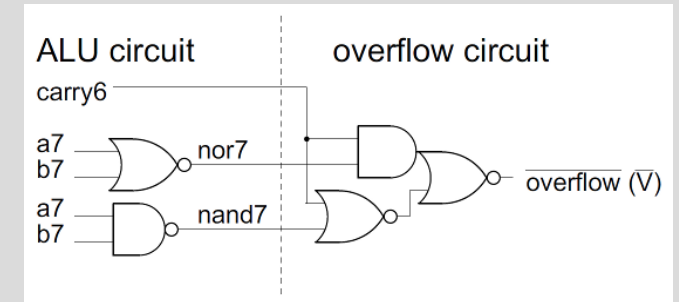
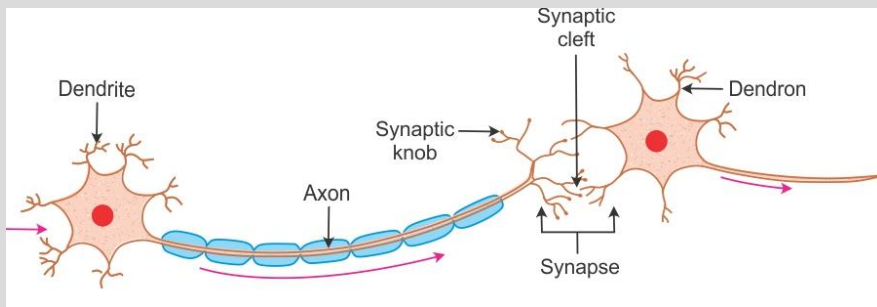


More ways to solve problems (by different means)

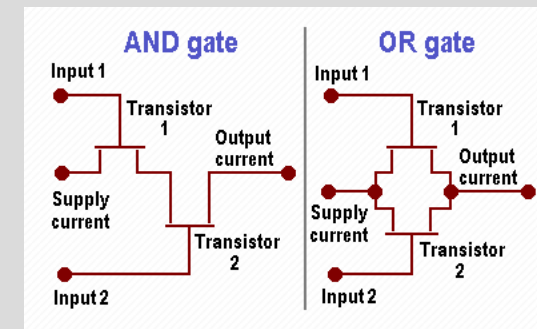
HUMAN BRAIN VS DIGITAL COMPUTER



- ▶ 85 Billion Neurons
- ▶ 50,000 inputs and 50,000 outputs for each neuron
- ▶ Outputs signals can be inhibitory or enabling
- ▶ Electrochemical signals are analog
- ▶ Receiver (filter) vs generator of consciousness



- Modern Microprocessors
 - Millions to less than < 10 B gates
- Interconnections
 - 1-2 Gates
 - Signals are digital (0 or 1)

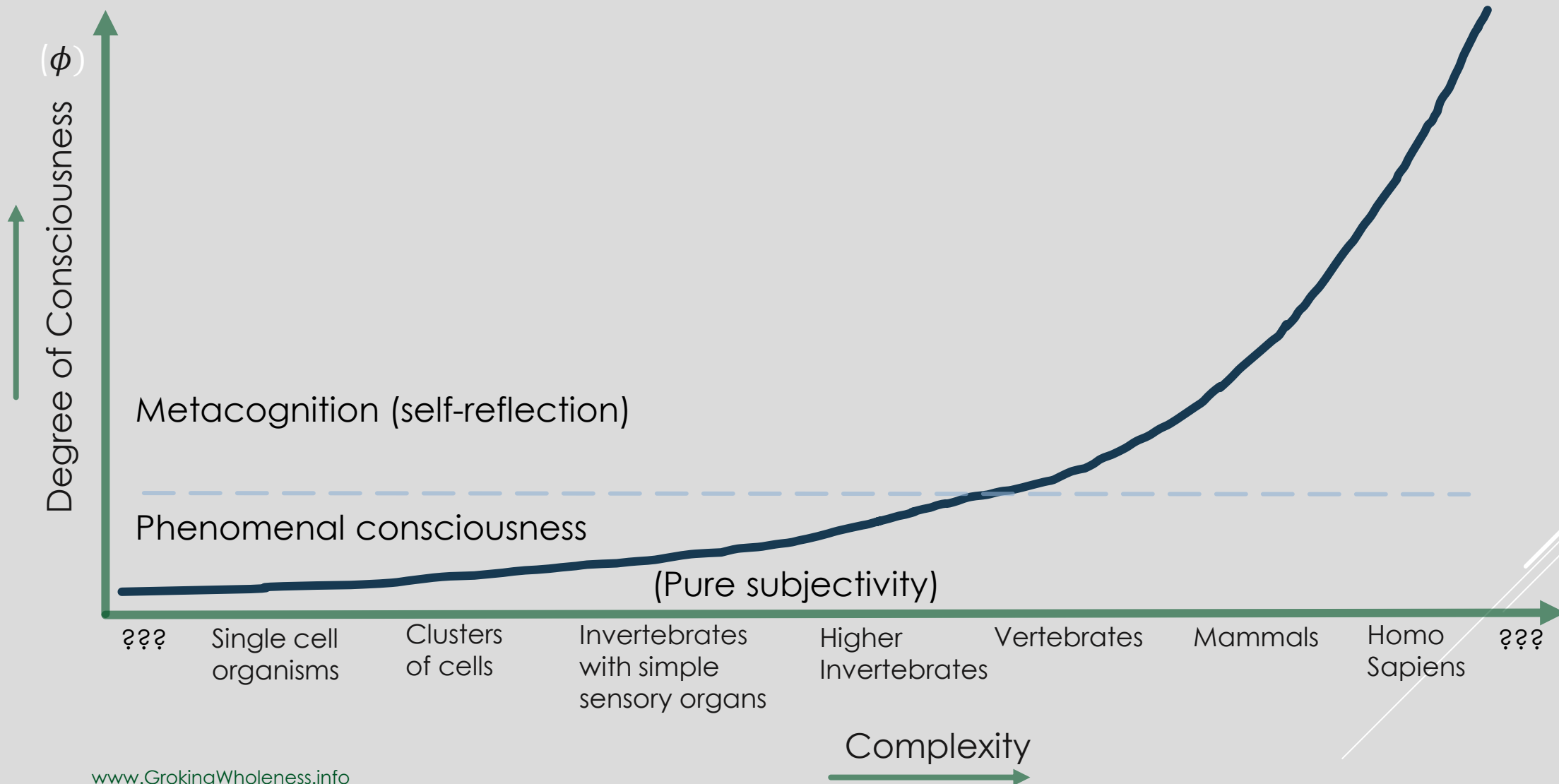


NATURE'S LEARNING IMPERATIVES (VIA CONSCIOUSNESS)

- ▶ Pure Subjectivity/ Phenomenal Consciousness / experience / "what it is like to be"
 - ▶ Inhibitors / Drivers
 - ▶ Pleasure, joy, happiness, etc.
 - ▶ Pain, suffering, fear, anguish, etc.
 - ▶ Instinct (archetypes) & beliefs
 - ▶ Agency (makes instinctual choices)
- ▶ Metacognition
 - ▶ Ability to assign meaning to experience
 - ▶ Varies by degree (not kind)
 - ▶ Ability to balance Inhibitors & drivers
 - ▶ Ability to reason (evaluate, analyze & plan)
 - ▶ Agency (makes conscious choices)



SPECTRUM OF CONSCIOUSNESS



PURE SUBJECTIVITY VS METACOGNITION?



Bernado Kastrup on Metacognition

<https://www.youtube.com/watch?v=cHdfDYjfAqk>

EXPLORATIONS INTO THE NATURE OF CONSCIOUSNESS

A BRIEF OVERVIEW OF CONSCIOUSNESS

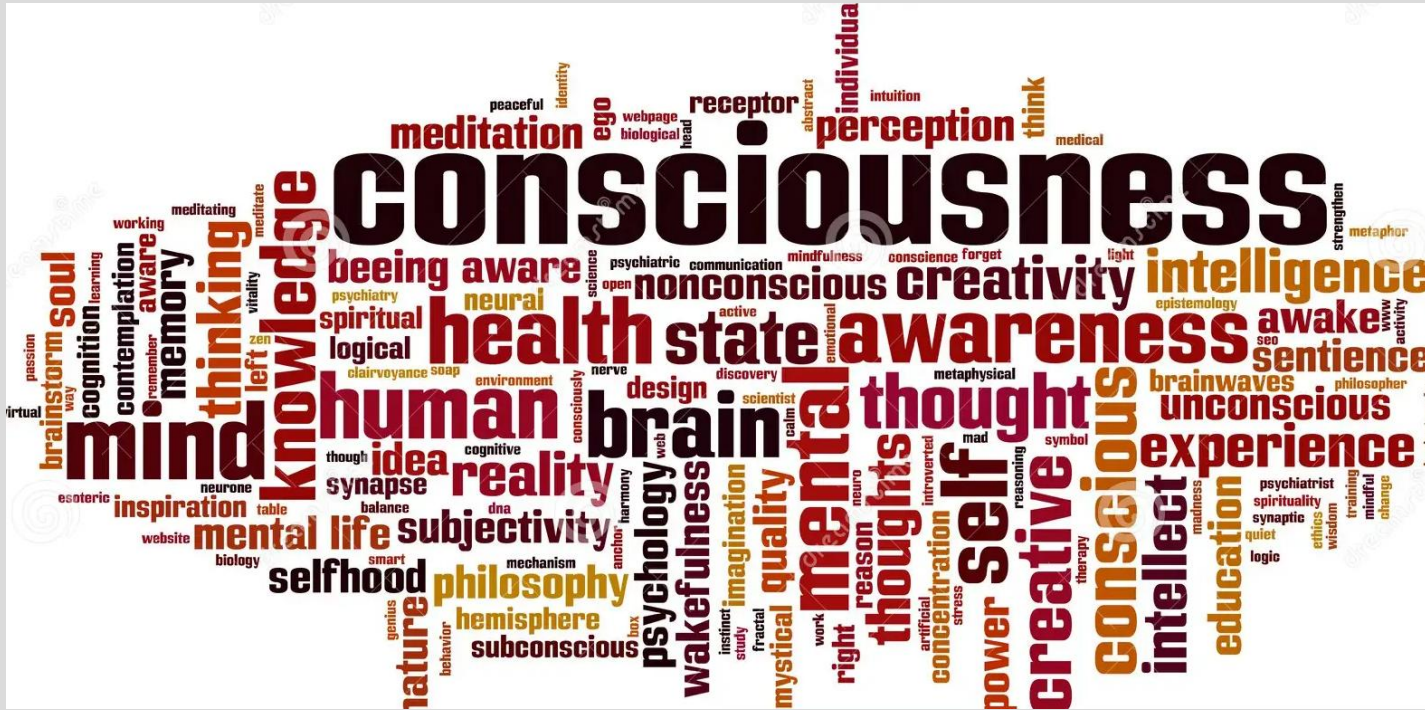
PART 5

Bob Staretz

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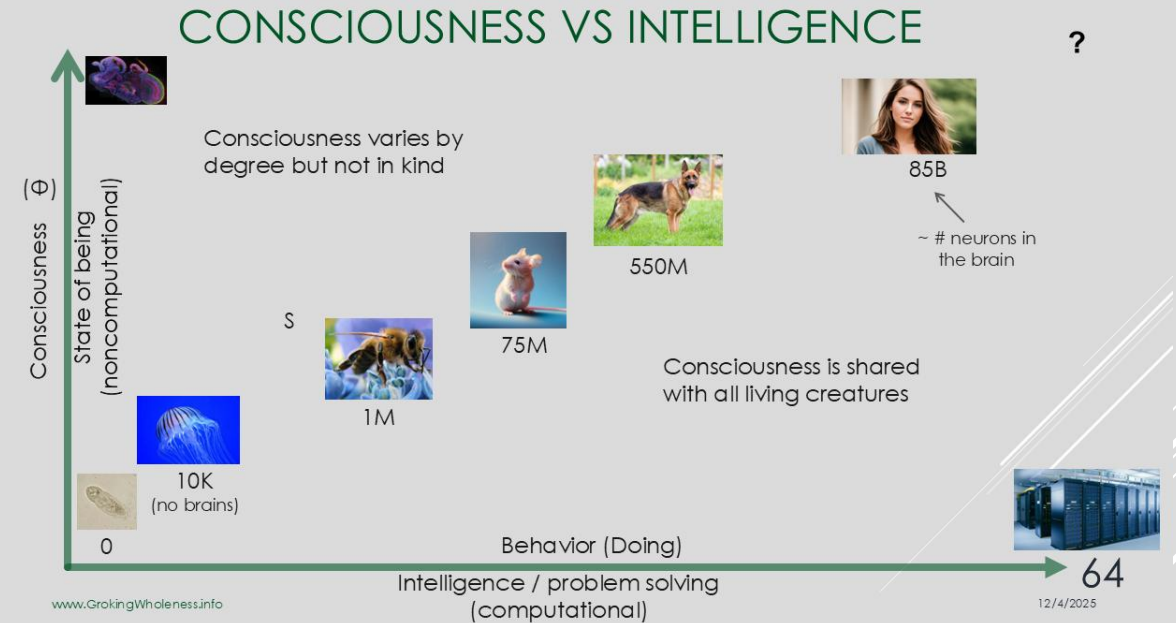
2025

CONSCIOUSNESS MEDITATION



THE THREE ASPECTS OF MIND

- Consciousness
 - About being, not doing
 - Exists for itself
 - Has causal power (for itself & others; agency)
 - Non computational
- Intelligence
 - About problem solving (pattern matching)
 - Computational
 - Simulations do not have causal power
- Memory / Information
 - Access
 - Storage



Intelligence & Memory ≠ Consciousness

SIMULATIONS VS AGENCY

- A **simulation** imitates the operation of real-world processes or systems with the use of models.
 - The model represents the key behaviors and characteristics of the selected process or system
 - The simulation represents how the model evolves under different conditions over time.
- **Agency** is the capacity of an entity or phenomenon to act in a give environment either for itself (self-exciting) or for others
- **Consciousness** has agency for itself (causal powers) for both itself and its environment



Simulations are not the same
as the thing being simulated

ARTIFICIAL (GENERAL) INTELLIGENCE

“Assuming that IIT is correct, it can be proven that a powerful general AI, or even a detailed simulation of one’s brain, will remain nonconsciousness (in any meaningful sense)”

Julio Tononi – co-inventor of IIT



A simulation is not the same as the thing being simulated
Consciousness is not computational

Artificial Intelligence [AI] is not the same as Artificial Consciousness [AC]

LIFE ≡ CONSCIOUSNESS

Cognition all the way down

Biology's next great horizon is to understand cells, tissues and organisms as agents with agendas (even if unthinking ones)

Michael Levin and Frantisek Baluska

<https://aeon.co/essays/how-to-understand-cells-tissues-and-organisms-as-agents-with-agendas>



The Computational Boundary of a “Self”: Developmental Bioelectricity Drives Multicellularity and Scale-Free Cognition

Michael Levin



On Having No Head: Cognition throughout Biological Systems

Frantisek Baluska and Michael Levin



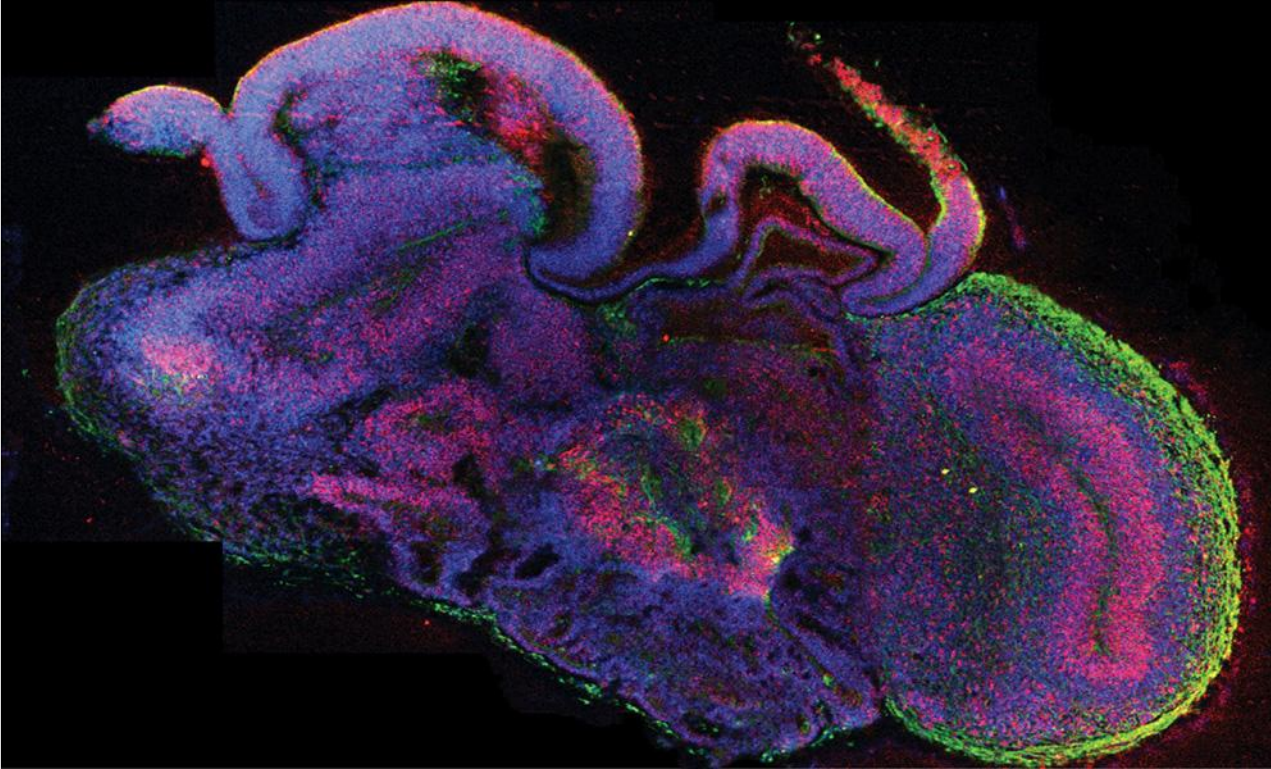
sciencealert

Computers Made From Human Brain Tissue Are Coming. Are We Prepared?

TECH 04 December 2025 By BRAM SERVAIS, THE CONVERSATION

Dr. Michael Levin - Professor of Biomedical Engineering Tufts University

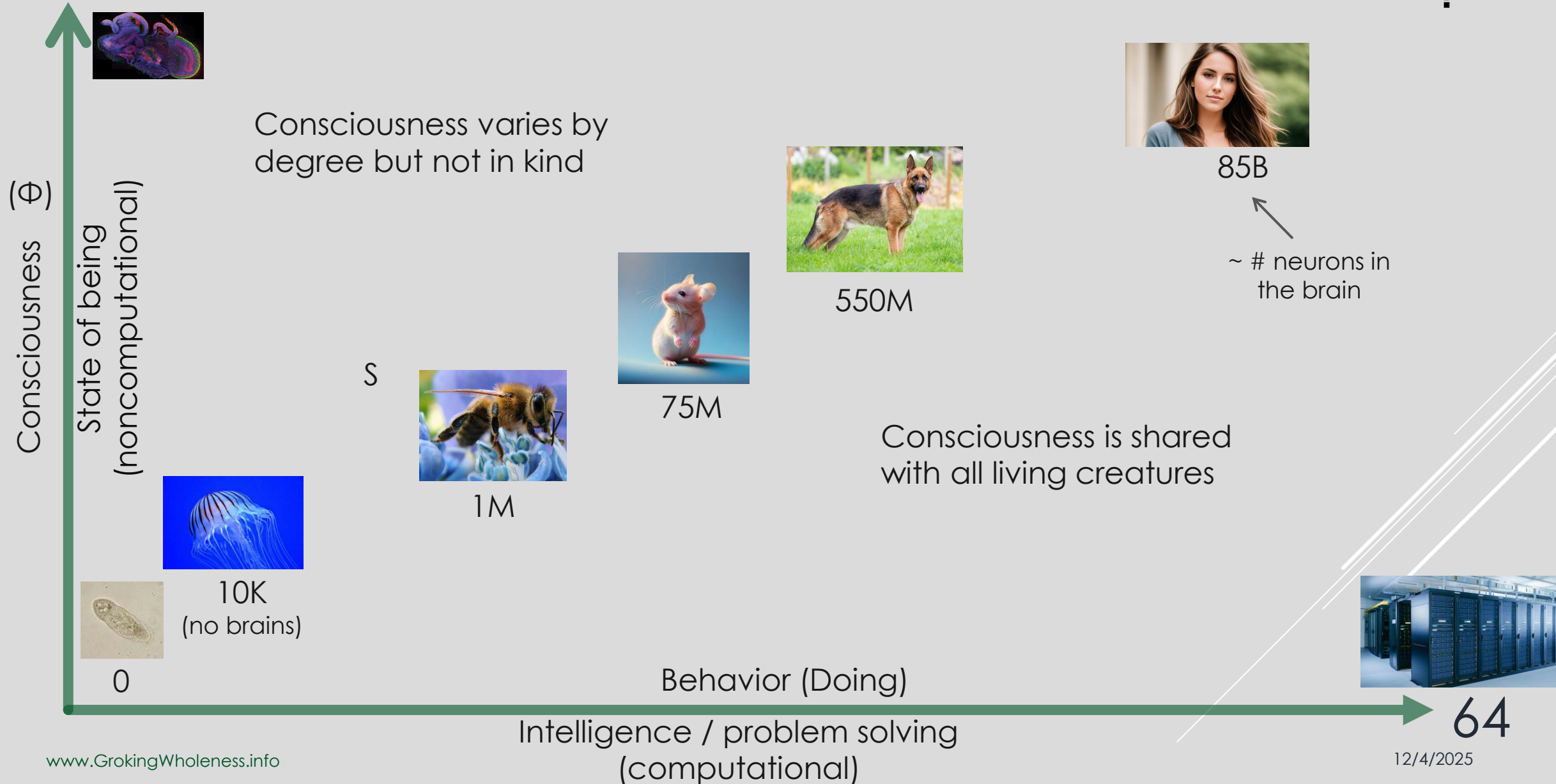
ORGANOIDS ARE COMING



- Three-dimensional (3D) living structures that mimic the architecture & function of actual organs.
- Derived from stem cells
- Can self-organize into complex tissue-like formations
- Valuable tools for various functions
 - Biomedical applications,
 - Bioelectronics & biocomputing
 - Cyborgs
 - ???

CONSCIOUSNESS VS INTELLIGENCE

?



THE REAL THREAT TO HUMANITY

World's first commercial biological computer launched by Cortical Labs (Australian start up) – March 5, 2025



CL-1. Credit: Cortical Labs

CL1's lab-cultivated cells are based on neurons grown from human stem cells

They are grown across a silicon chip that has pins used to send electrical impulses into the web of neurons and receive impulses back.

This creates a high bandwidth connection between the organic network and digital set ups.

HUMAN BRAIN CELLS ON A CHIP FOR SALE

The Cortical Labs CL1's compact energy and hardware footprint could make it attractive for extended experiments. A rack of CL1 units consumes 850-1,000 watts, notably lower than the tens of kilowatts required by a data center setup running AI workloads.

www.GrokingWholeness.info



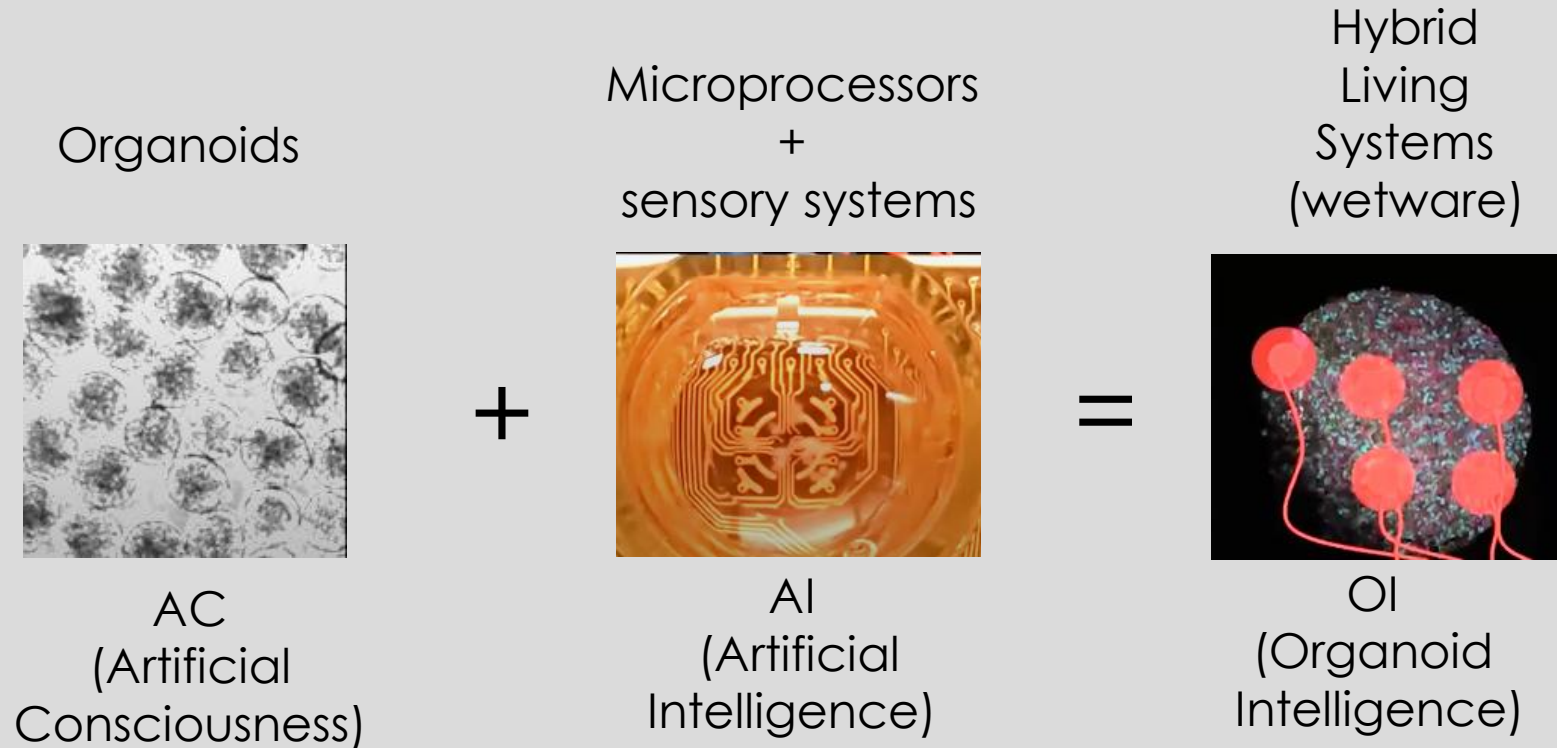
The first 115 units will begin shipping this summer (2025) at \$35,000 each, or \$20,000 when purchased in 30-unit server racks. Cortical Labs also offers a cloud-based “wetware-as-a-service” at \$300 weekly per unit, unlocking remote access to its in-house cell cultures.

Each CL1 contains 800,000 lab-grown human neurons, reprogrammed from the skin or blood samples of real adult donors. The cells remain viable for up to six months, fed by a life-support system that supplies nutrients, controls temperature, filters waste, and maintains fluid balance. Meanwhile, the neurons are firing and interpreting signals, adapting from each interaction.

ORGANOID INTELLIGENCE



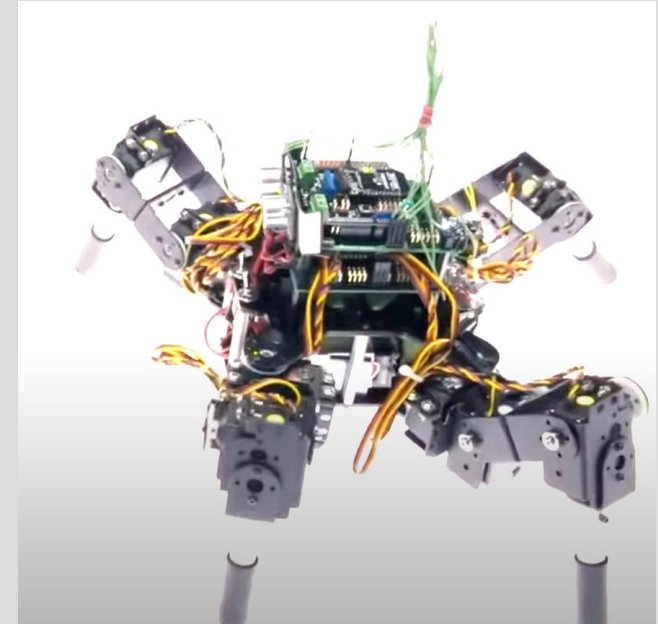
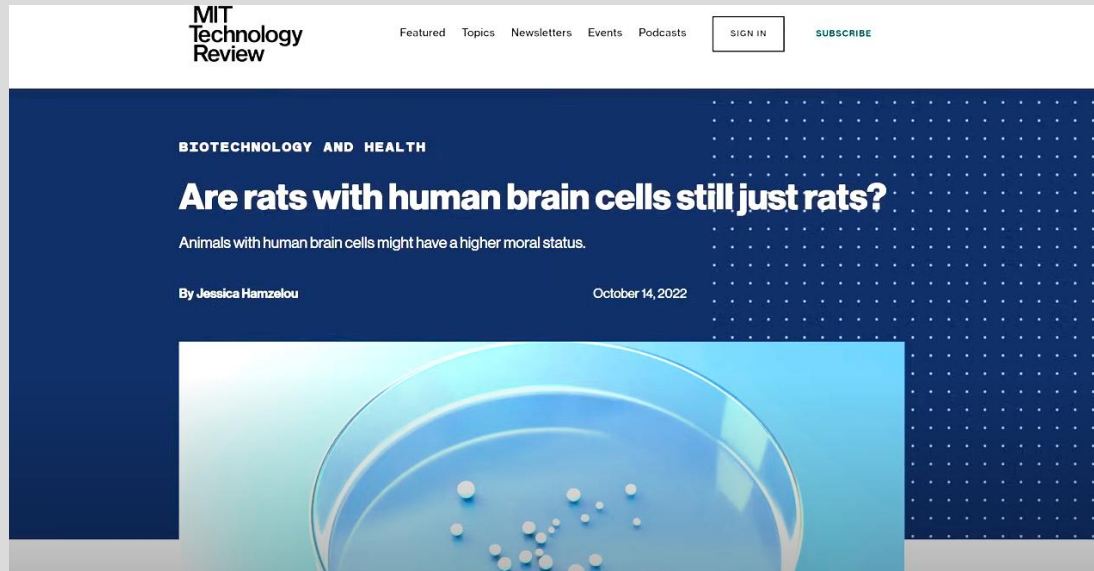
THE FUTURE – BIOCOMPUTING



Eventually OI capabilities will far exceed human capabilities

Whiting School of Engineering, Johns Hopkins University

ETHICAL IMPLICATIONS OF OI



Journal of Law and the Biosciences, 1–13
<https://doi.org/10.1093/jlb/lbad007>
Original Article

OXFORD

The legal personhood of human brain organoids

Masanori Kataoka ¹, Tsung-Ling Lee ² and
Tsutomu Sawai ^{1,3,*}

¹ Graduate School of Humanities and Social Sciences, Hiroshima University, Hiroshima, Japan

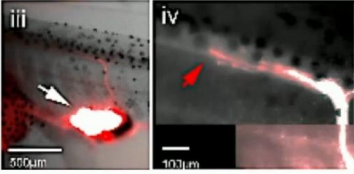

² Graduate Institute of Health and Biotechnology Law, Taipei Medical University, Taipei, Taiwan

³ Institute for the Advanced Study of Human Biology, Kyoto University, Kyoto, Japan


*Corresponding author. E-mail: tstmsw@hiroshima-u.ac.jp

WHERE IS MEMORY?

Life Makes Few Assumptions: Beginner's Mind



Ectopic eyes on tail provide vision!




Behavioral Testing Device

no evolutionary adaptation needed (because embryos can't take much for granted, have to solve on-the-fly: evolution makes problem-solving agents)

Brain dynamically adjusts behavioral programs to accommodate different body architectures

Non-neural intelligence: biological architectures for problem-solving in diverse spaces



Michael Levin
Tufts University

NATURALISTIC APPROACHES TO ARTIFICIAL INTELLIGENCES, NOVEMBER 04-08, 2024, WWW.IPAM.UCLA.EDU

Michael Levin – Tufts University – Biology Dept

<https://www.youtube.com/watch?v=gCo5zKXOuUE>

SO WHAT AND WHERE IS CONSCIOUSNESS?

“If you take molecular mechanisms, evolutionary relationships, or problem-solving behaviors as evidence of consciousness in the problem of other minds, you need to take it seriously for non-linguistic body organs too (and beyond)”

Michael Levin PhD – Biology Dept. Tufts University



“Creative problem-solving, learning, etc. are ancient – not brain-specific. Sciences of the self-assembly of bodies (developmental biology) and of the autopoiesis of minds have a lot to teach each other”

EXPLORATIONS INTO THE NATURE OF CONSCIOUSNESS

A BRIEF OVERVIEW OF CONSCIOUSNESS

PART 6

Bob Staretz

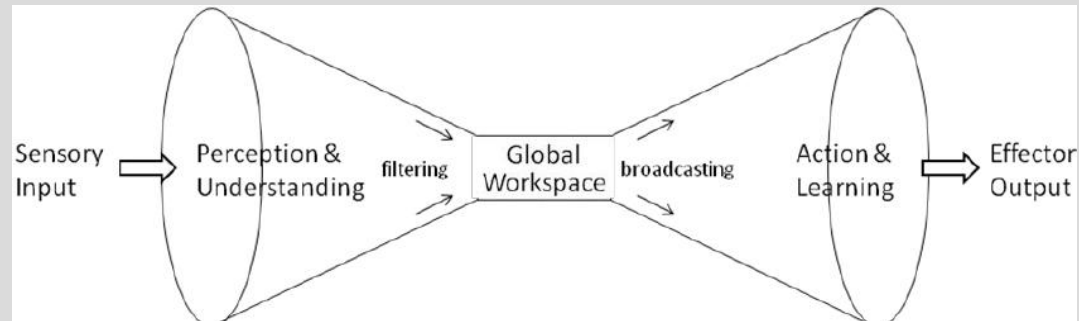
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2025

LEADING THEORIES OF CONSCIOUSNESS

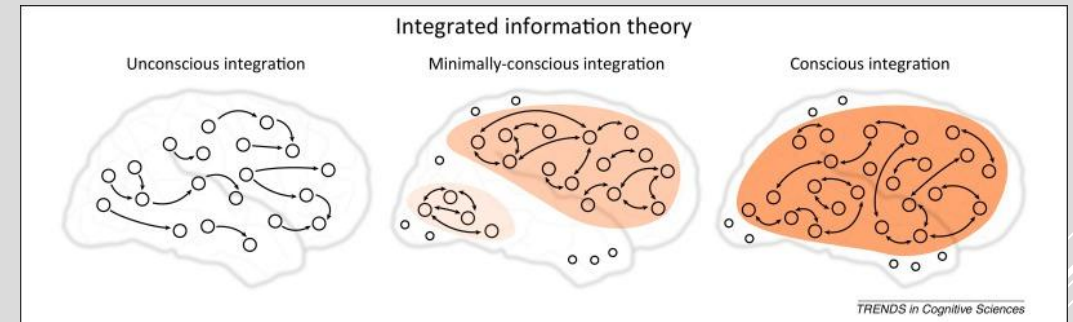
Both Theories Integrate Information

Global Workspace Theory



Perceptual information of an experience goes to a global workspace and is broadcast to other centers

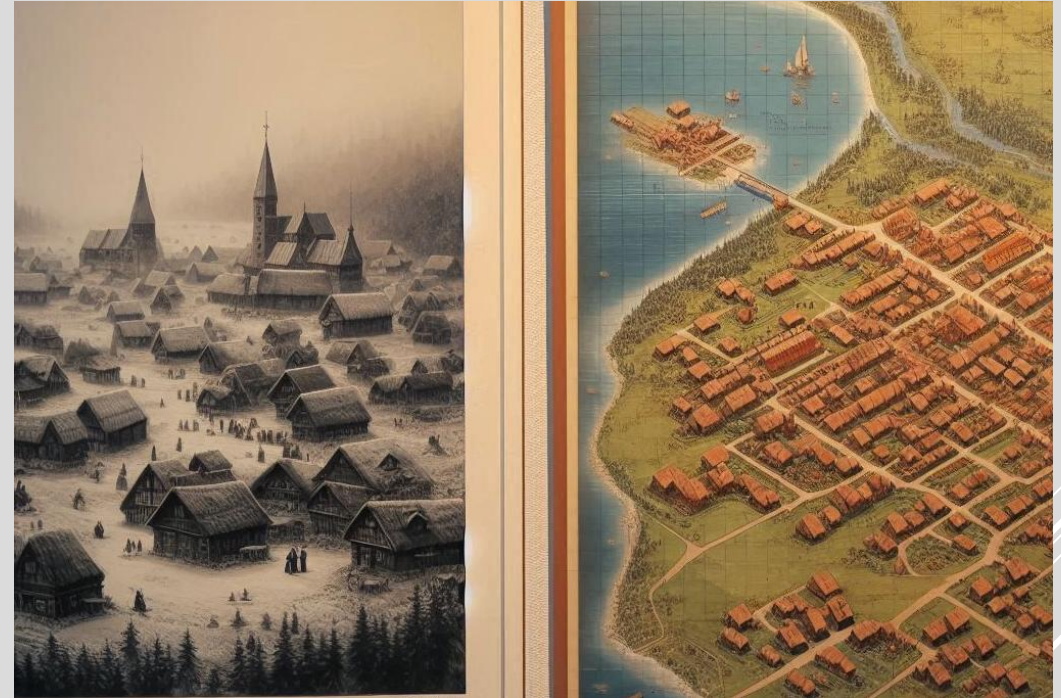
Integrated Information Theory (IIT)



Consciousness is intrinsic to cognitive networks that exert “causal power” on themselves. Can be measured by a parameter referred to as Φ

MODELS OF CONSCIOUSNESS

- ▶ “The map is not the territory”
 - ▶ Does not represent the thing represented as it really exists
- ▶ Predictive value
 - ▶ Mimic nature's behavior
- ▶ Symbolic thinking is a model of reality; experience is the actual thing
 - ▶ Describe the taste of garlic
 - ▶ Experience the taste



Actual village

Map of Village

Models are useful for conceptual reasoning and explanatory power

THE IIT MODEL OF CONSCIOUSNESS

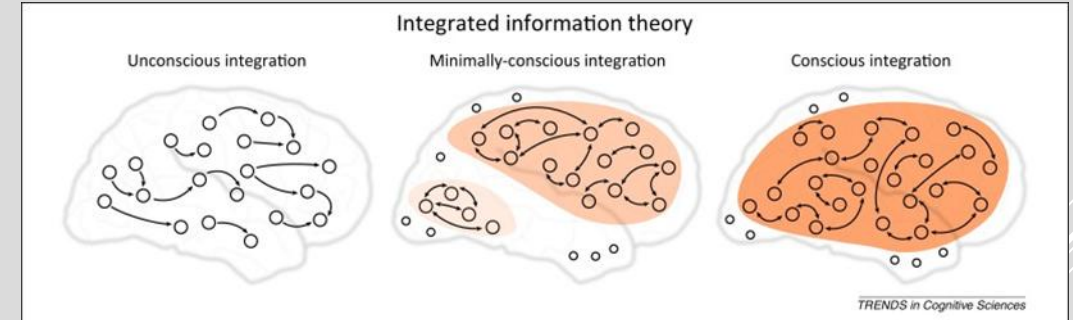
- ▶ Integrated Information Theory (IIT)
- ▶ A **model** describing what consciousness does – not what it is

- ▶ Starts from experience (consciousness) – which exists irrefutably
- ▶ Accounts for the qualities of experience
- ▶ An experience is identical to a cause-effect structure (cognitive complex) upon itself
- ▶ Maps subjectivity to neural correlates (physicality)
- ▶ Structural; non computational
- ▶ Not tied to a specific metaphysics

- ▶ Has explanatory and predictability value

- ▶ Practical Applications

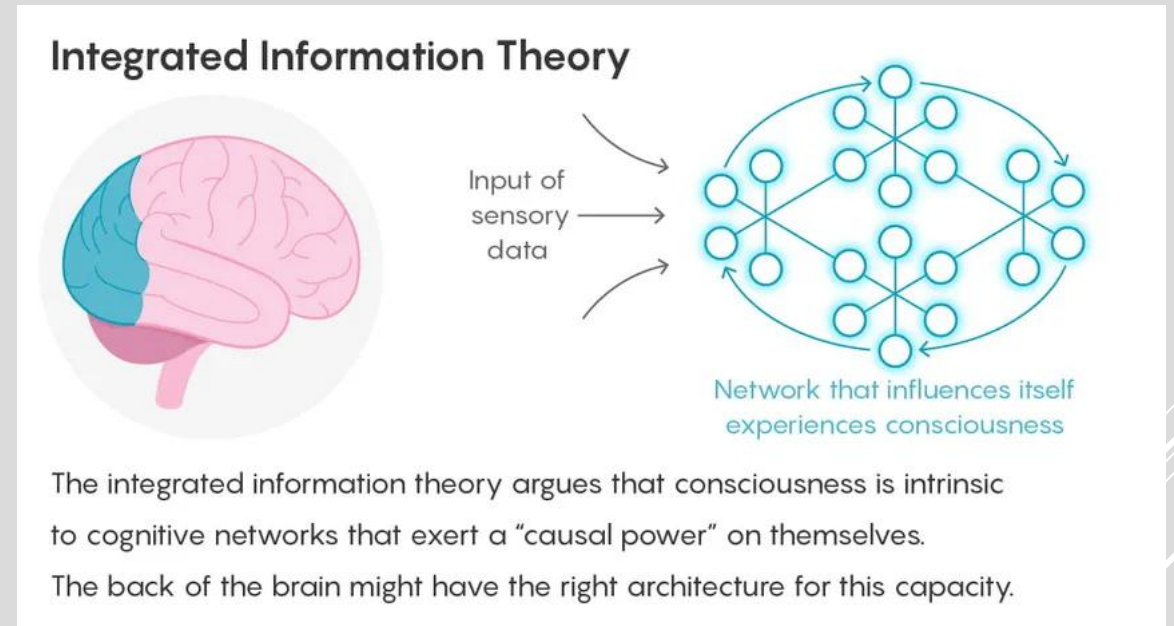
- ▶ “Locked in” syndrome
- ▶ Consciousness modification (anxiety disorders, suffering, etc.)
- ▶ Ethics
 - ▶ Measurement (degree of suffering)
 - ▶ Free will debate (certain types of decisions)
 - ▶ Moral rights (what is the threshold)
- ▶ Compassion



Note: correlation does not imply causality

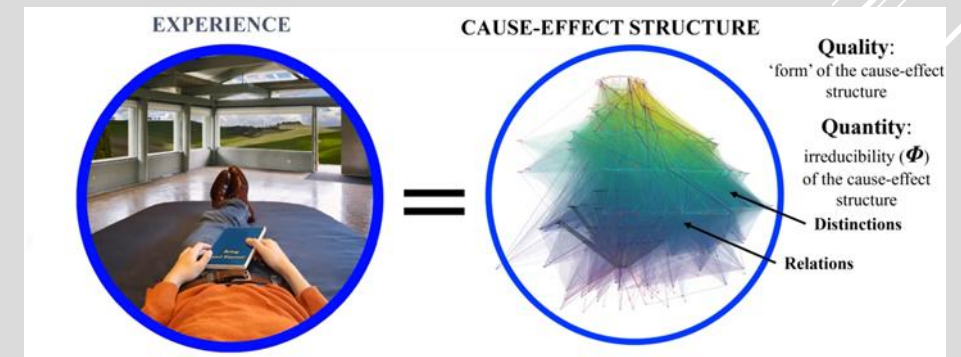
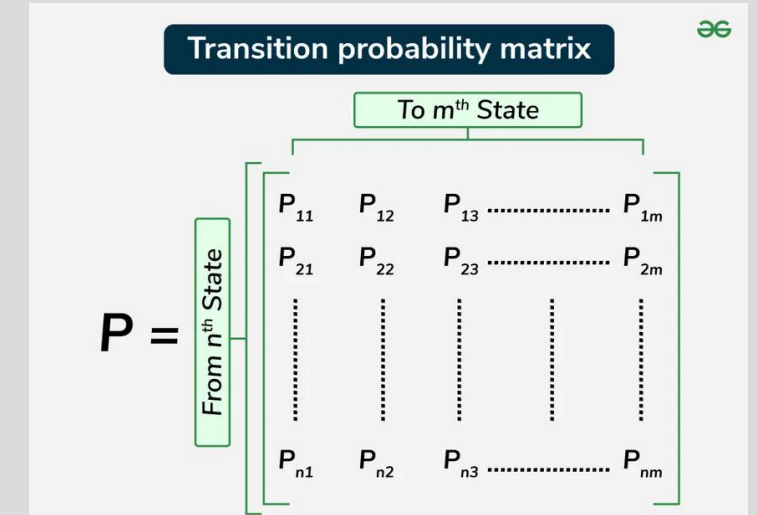
INTEGRATED INFORMATION THEORY

- ▶ Starts with experience (e.g. consciousness)
- ▶ Axioms (describe all conscious experience)
 1. Every experience exists for itself
 2. Its specific
 3. Its definite
 4. Its only one (not many) integrated (unified) experience
 5. It may have multiple components, visual, auditory, touch, taste, etc.
- ▶ It has causal power for itself or for external objects auditory, touch, etc. (It can make or take a difference)
- ▶ The current state is determined by its own past and can determine its own future
- ▶ The extent to which a system has causal power defines the degree of consciousness it has (Φ)



TRANSITION PROBABILITY MATRIX

- ▶ The TPM describes how a system transitions between end states
- ▶ By determining the intrinsic causal power a system has upon itself, you can compute the amount of integrated information it has (Φ)
 - ▶ $\Phi = 0$ = no consciousness
 - ▶ $\Phi > 0$ = the system exists for itself (is conscious)
- ▶ Every structure maps to a corresponding state (subjective experience – what the system is conscious of)



EXPLORATIONS INTO THE NATURE OF CONSCIOUSNESS

A BRIEF OVERVIEW OF CONSCIOUSNESS

PART 7

Bob Staretz

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METAPHYSICS VS SCIENCE

▶ Metaphysics

- ▶ A description of what nature is (Being)
- ▶ Metaphysics can inform science
- ▶ Living systems cannot directly see reality for what it actually is

▶ Science

- ▶ A description of how nature behaves (Doing)
- ▶ Science is perceptual (3rd person)
- ▶ Science can validate metaphysics
- ▶ Uses models (convenient fictions) to predict nature's behavior
- ▶ Maps (models) are NOT the territory
- ▶ Scientific theories can be falsified (scientific method)



MAJOR SCHOOLS OF THOUGHT ON THE METAPHYSICS OF CONSCIOUSNESS

- ▶ Physicalism (aka materialism)
 - ▶ Consciousness is an epiphenomenon (byproduct) of brain function & processes
- ▶ Dualism
 - ▶ Matter and consciousness are two distinct but fundamental aspects of reality
- ▶ Panpsychism
 - ▶ Every physical object has an additional property (a basic component of consciousness)
- ▶ Idealism
 - ▶ Everything either is consciousness or is in consciousness and/or manifested by Consciousness



CONSCIOUSNESS IS FUNDAMENTAL

Dualism

Panpsychism

Idealism

Ancient eastern traditions



23 hours ago

New Study Claims “Universal Consciousness” Existed Before the Big Bang—and Still Shapes Our Reality

thedebrief.org - Tim McMillan

For centuries, the nature of consciousness has remained one of the most stubborn mysteries in science. Neuroscientists have mapped brain circuits,

Universal consciousness as foundational field: A theoretical bridge between quantum physics and non-dual philosophy

**AIP Advances
Vol 15, issue 11**

Dec 2, 2025

FILTER THEORY OF CONSCIOUSNESS

- ▶ Subjective experience is not generated by the brain, but merely selects it according to the body in space-time
- ▶ Examples of reduced brain activity leading to transpersonal/mystical states
 - ▶ Fainting caused by asphyxiation
 - ▶ G-Force induced lost of consciousness
 - ▶ Holotropic breathwork
 - ▶ Psychedelic experiences
 - ▶ Transcranial Magnetic stimulation (TMS)
 - ▶ Stroke patients
 - ▶ Acquired savant syndrome
 - ▶ NDEs
 - ▶ Etc.



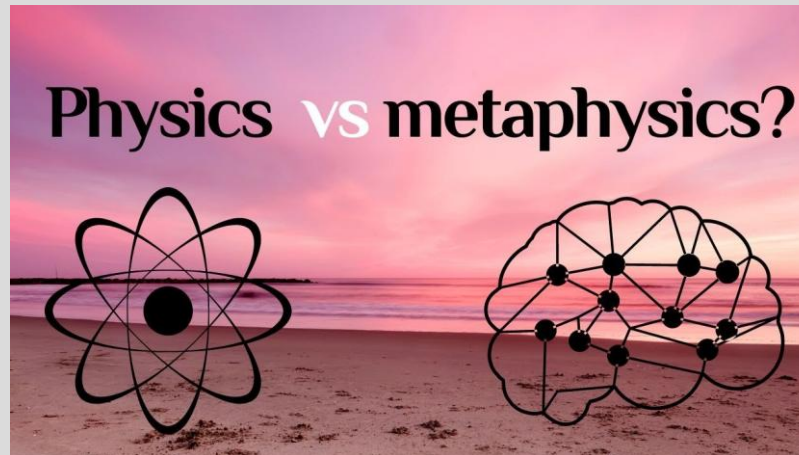
THE PATH TO IDEALISM

- ▶ One starts as a materialist, then one becomes a dualist, then a panpsychist, and one ends up as an idealist
 1. First one is impressed by the success of science, endorsing materialism about everything and so about the mind
 2. Second, one is moved by problem of consciousness to see a gap between physics and consciousness, thereby endorsing dualism, where both matter and consciousness are fundamental
 3. Third, one is moved by the inscrutability of matter to realize that science reveals at most the structure of matter and not its underlying nature, and to speculate that this nature may involve consciousness, thereby endorsing panpsychism
 4. Fourth, one comes to think that there is little reason to believe in anything beyond consciousness and that the physical world is wholly constituted by consciousness, thereby endorsing idealism

Source: David Chalmers: "Idealism and the Mind/Body Problem"

Criteria for Evaluating Metaphysical Hypotheses

- ▶ Empirical evidence consistent with hypothesis
- ▶ Explanatory power for observed phenomena
- ▶ Coherent and supported by informed intuitions and experience
- ▶ Plausibility
- ▶ Logic and reasonability tests
- ▶ Parsimonious (Occam's razor)

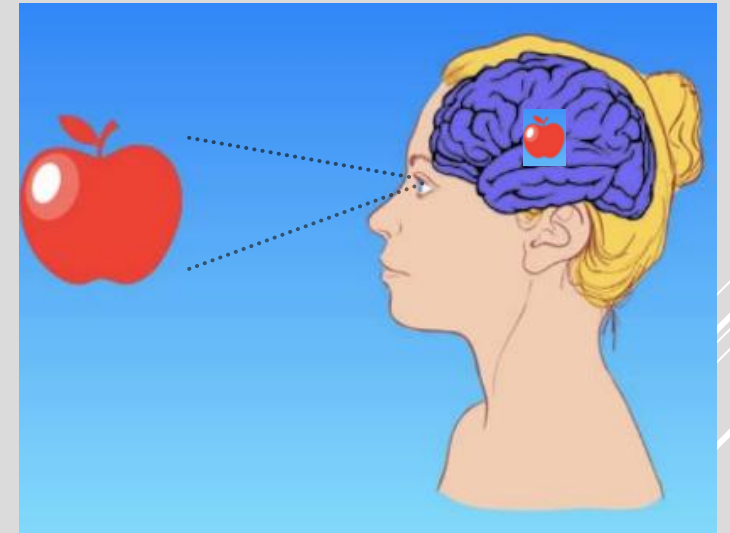


PHYSICALISM (AKA MATERIALISM)

PREVAILING VIEW

- ▶ Originally invented as a political weapon against the church
- ▶ External non-living objects have their own independent physical existence and are made of a single ontic category
- ▶ Assumes that consciousness arises from biological brain functions and processes (epiphenomenal)
- ▶ Consciousness does not exist in organisms without a brain
- ▶ Matter can be described by quantities (mass, charge, size, etc.)
- ▶ Issues
 - ▶ Provides no solution to the “Hard Problem of Consciousness” – what are the physical objects (and their properties) that create experience
 - ▶ Not a single conscious experience has ever been explained
 - ▶ Conflicts with recent discoveries in physics, biology, neuroscience and neurophysiology
 - ▶ Does not explain much of the human experience
 - ▶ Cultural conditioning embedded in humanity since the mid 19th century

The map is not the territory



- ▶ Add slide on my arguments to Douglas on why not materialism

EVIDENCE AGAINST MATERIALISM

- ▶ Science
 - ▶ Quantum Physics
 - ▶ Neuroscience
 - ▶ Neuropsychology
 - ▶ Biology
- ▶ Non-ordinary states of consciousness
 - ▶ Terminal lucidity
 - ▶ Stand still surgery
 - ▶ NDEs,
 - ▶ Savant syndrome
 - ▶ Insights and intuition
 - ▶ Psychedelics
 - ▶ PSI
- ▶ Explanatory power
 - ▶ Much of the human experience is denied
 - ▶ Empirical evidence
- ▶ Logic and reason
- ▶ Parsimony (Occam's razor)



UNIVERSAL CONSCIOUSNESS AS FOUNDATIONAL FIELD

Abstract - AIP Advances November 2025 (Volume 15, Issue 11)

<https://pubs.aip.org/aip/adv/article/15/11/115319/3372193/Universal-consciousness-as-foundational-field-A>

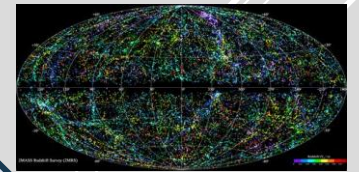
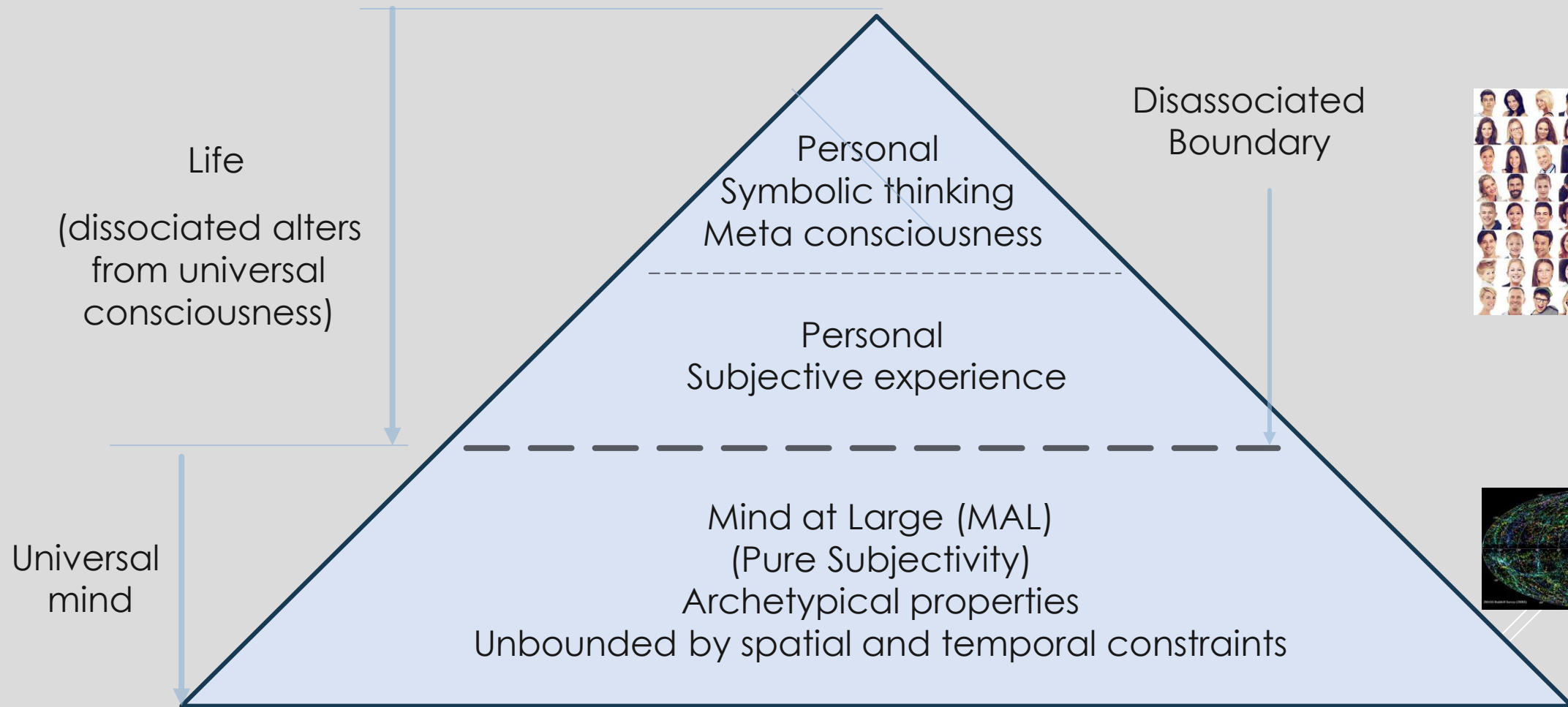
This paper presents a novel framework that integrates consciousness with fundamental physics, proposing that consciousness is not an emergent property of neural processes but a foundational aspect of reality. Building upon insights from quantum field theory and non-dual philosophy, a model based on the three principles of universal mind, universal consciousness, and universal thought is introduced. These principles describe an underlying, formless intelligence (mind), the capacity for awareness (consciousness), and the dynamic mechanism through which experience and differentiation arise (thought). Within this framework, the emergence of space–time and individual awareness is modeled mathematically by treating universal consciousness as a fundamental field. Differentiation into individual experience occurs via mechanisms such as symmetry breaking, quantum fluctuations, and discrete state selection—paralleling established concepts in physics, including Bohm’s implicate order, Heisenberg’s potentia, and Wheeler’s participatory universe. This model suggests that the apparent separateness of individual consciousness is an illusion, with all experience ultimately arising from a unified, formless substrate. The framework aligns with emerging theories in quantum gravity, information theory, and cosmology that posit classical space–time as emergent from a deeper pre-spatiotemporal order. It offers a non-reductionist alternative in neuroscience, suggesting that consciousness interacts with physical processes as a fundamental field. By drawing from insights from physics, metaphysics, and philosophy, this conceptual framework proposes new directions for interdisciplinary inquiry into the nature of consciousness and the origins of structure and experience.

ANALYTICAL IDEALISM POSTULATES

BERNADO KASTRUP

- ▶ Phenomenal Consciousness (Universal mind)
 - ▶ Ontological primitive Life (1st person view) is a dissociation of Universal mind
 - ▶ Metabolizes
- ▶ All Physicality (3RD person view) is a projection of Mind at Large (MAL)
 - ▶ Mentality
- ▶ The reality we perceive is an interface
 - ▶ Mental image of Mind at large)
 - ▶ Desktop / Airplane instrumentation panel metaphors
 - ▶ Entropy
- ▶ Memory and Experience
 - ▶ Non-local and unbounded
- ▶ Agency (causal power)
 - ▶ Exists in embodied form

ANALYTIC IDEALISM EMERGING VIEW



All physical objects are 3rd person representations of mentation (consciousness)

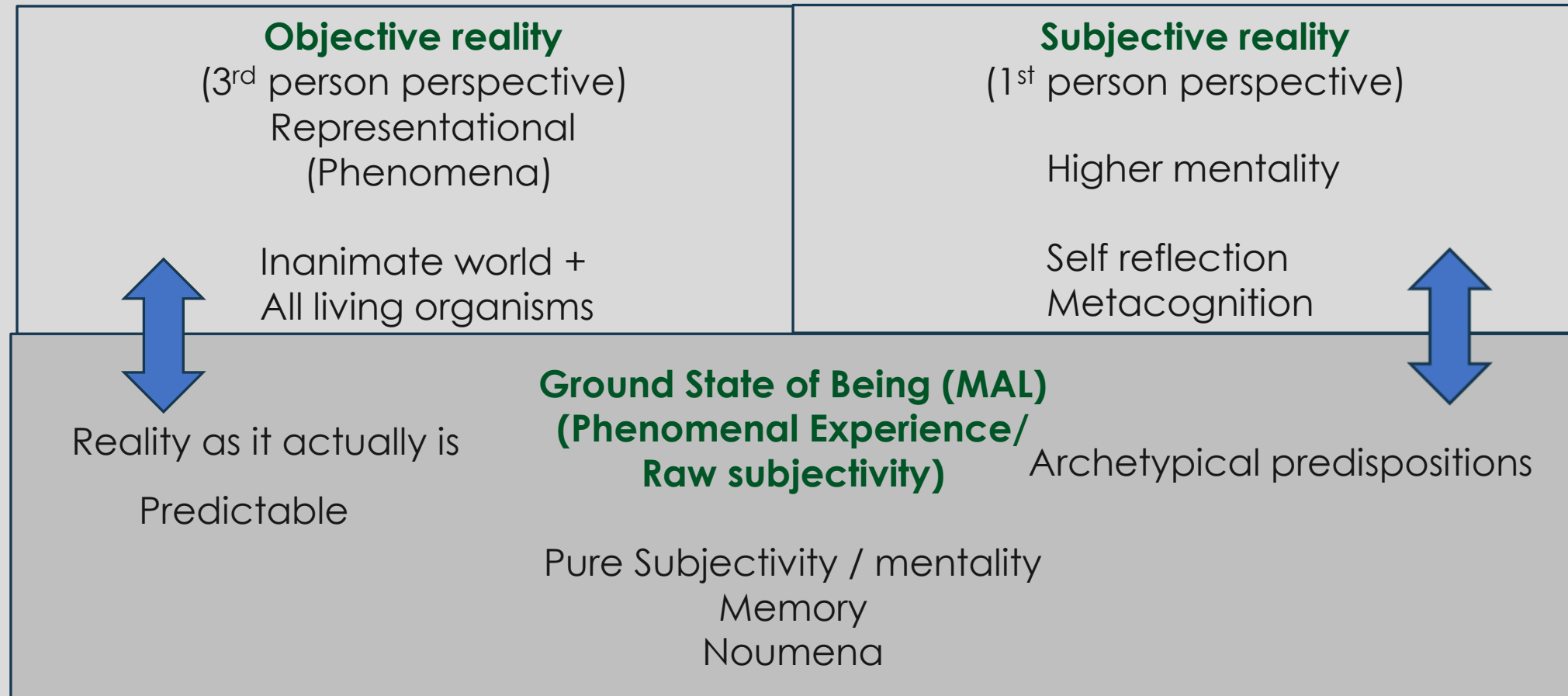
Subjective experience is the fundamental substrate of Nature

UNIVERSAL CONSCIOUSNESS - DREAM ANALOGY

- ▶ The dreaming mind
- ▶ The avatar
- ▶ The objects of the dream
- ▶ The wakeup realization

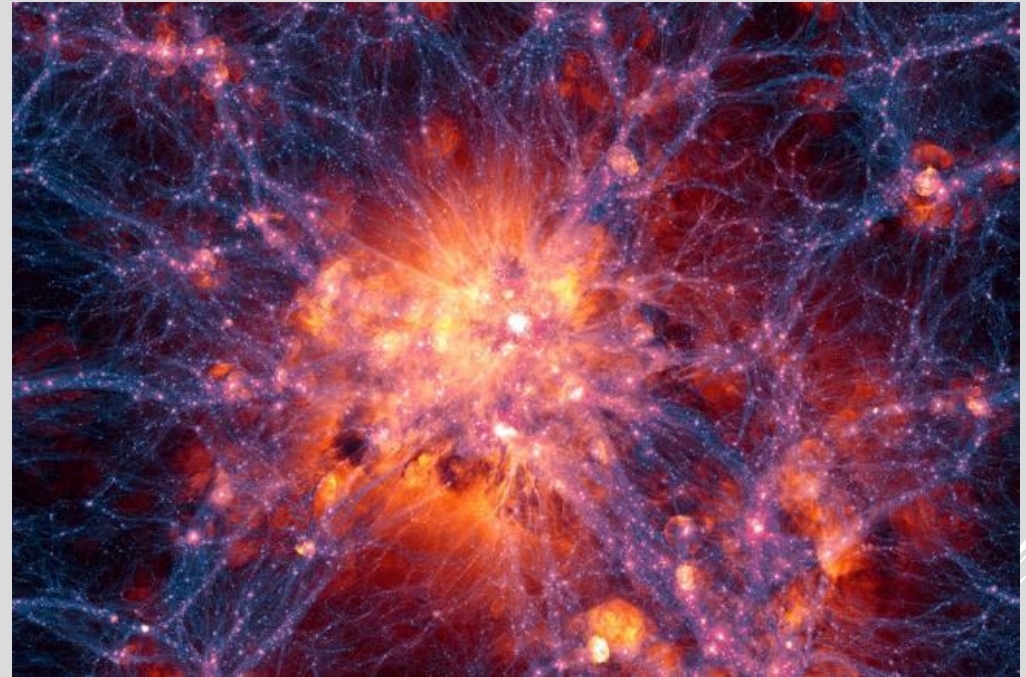
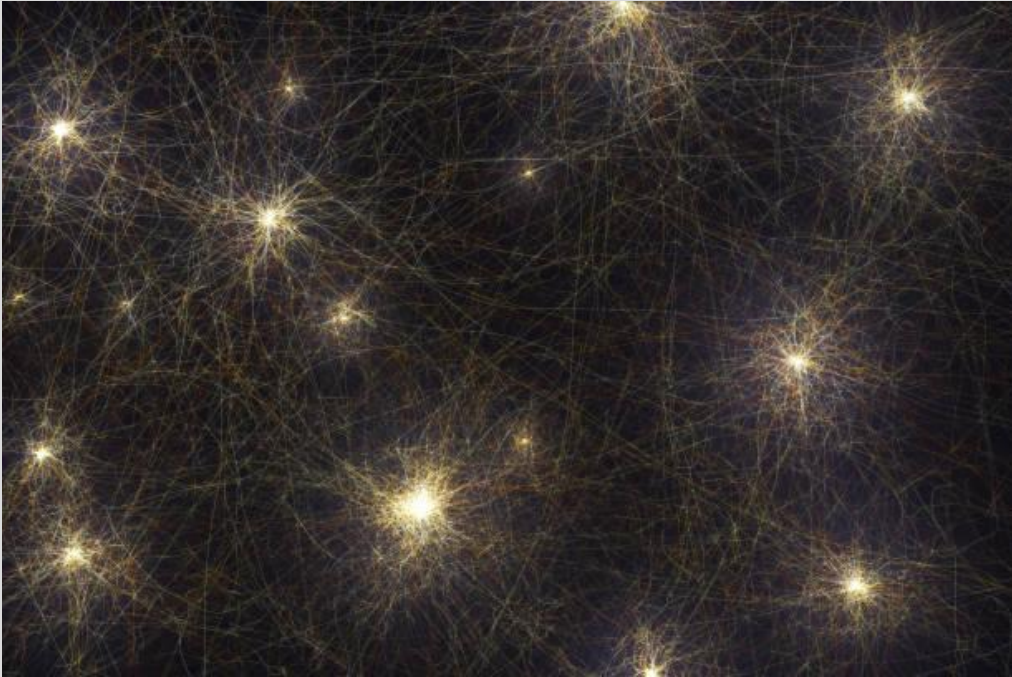


ASPECTS OF ANALYTIC IDEALISM



LARGE SCALE STRUCTURE OF THE UNIVERSE

(Third person perspective)



A neural network?

VIDEO ON MATERIALISM VS PHYSICALISM

► To be added

IMPLICATIONS – SURVIVAL BEYOND DEATH



Excerpt: Bernardo Kastrup on Near Death Experiences

<https://www.youtube.com/watch?v=Cuo2DJtulcA>

THE ONE IS IN THE MANY & THE MANY IS IN THE ONE



EXPLORATIONS INTO THE NATURE OF CONSCIOUSNESS

A BRIEF OVERVIEW OF CONSCIOUSNESS

PART 8

Bob Staretz

www.GrokingWholeness.info

2025

CONSCIOUSNESS IS ALL THERE IS

- ▶ At the fundamental substrate of reality there is only one universal (subjective) consciousness
- ▶ Everything is conscious or exists in consciousness
- ▶ All life is dissociated aspects of universal consciousness
- ▶ Physicality is a 3rd person perspective of consciousness
- ▶ Space and time are mental constructs that organize experience
- ▶ Consciousness is unbounded
- ▶ Consciousness assigns meaning to experience
- ▶ There is only oneness
- ▶ Self excitable (causal powers)
- ▶ Exists for itself



“The more you look at the Universe, the more it seems like a great thought”

Sir James Jeans

CONSCIOUSNESS - THE ONTOLOGICAL PRIMITIVE

- ▶ Consciousness is Incontrovertible
 - ▶ If there is an **experience**, there is an experienter
- ▶ Empirical Evidence
 - ▶ Quantum Physics
 - ▶ Neuroscience & Neurophysiology
 - ▶ Biology, medicine
- ▶ Explanatory power
 - ▶ Brain impairments or pathologies
 - ▶ Terminal Lucidity
 - ▶ Savant syndrome
 - ▶ Non-ordinary states of consciousness
 - ▶ NDEs, OBEs, etc.
 - ▶ Synchronicities
 - ▶ Psi phenomena
 - ▶ Etc.

**Essentia
Foundation**



www.essentiafoundation.org

BERNADO VIDEO

- ▶ (Bernado video)

WHERE WE ARE AND WHERE WE ARE HEADED

- ▶ Physicalism (prevailing view)
 - ▶ Consciousness is an epiphenomena of matter
 - ▶ Consciousness ends at bodily death; life has no meaning nor purpose
 - ▶ Applauds consumption and accumulation of material resources
 - ▶ Encourages Individualism and separation
 - ▶ Promotes nihilism and an epicurean lifestyle
 - ▶ Removes the fear of death the biggest fear in human history
- ▶ Analytic Idealism (emerging view)
 - ▶ Consciousness is the substate for all reality and is unbounded by time and space
 - ▶ Matter is derived from consciousness
 - ▶ It restores meaning and purpose to the human condition
 - ▶ What is learned and/or experienced is never lost
 - ▶ There is only oneness and entanglement
 - ▶ It promotes empathy, altruistic behavior and the sanctity of life
 - ▶ Provides a much better understanding of the full breath human experience
 - ▶ A new model of wellness – one that promotes mind body interactions



AN EPIPHANY FROM SPACE

► (add Edgar video here)

TRANSCENDENT CONSCIOUSNESS

CHRIS BACHE, PHD

*"That the universe is the manifest body of a Divine Being of unimaginable intelligence, compassion, clarity, and power,
that we are all aspects of this Being, never separated from it for a moment,
that we are growing ever more aware of this connection,
that physical reality emerges out of Light and returns to Light continuously,
that Light is our essential nature and our destiny,
that all life moves as One,
that reincarnation is true,
that there is a deep logic and significance to the circumstances of our lives,
that everything we do contributes to the evolution of the whole,
that our awareness continues in an ocean of time and a sea of bliss when we die,
that we are loved beyond measure and
that humanity is driving towards an evolutionary breakthrough that will change us and life on this planet at the deepest level."*

THE NATURE OF EXISTENCE?

- ▶ The ontological primitive of the universe is consciousness
 - ▶ There is only Oneness
 - ▶ Reality is mental
 - ▶ It is boundless beyond both space and time
- ▶ Consciousness is learning and evolving
 - ▶ Trial and error
 - ▶ Self-organizing
 - ▶ Intelligent
 - ▶ Creative
 - ▶ Interactive
 - ▶ Participatory
- ▶ Through life (dissociation from self)
Consciousness is learning about itself
 - ▶ All knowledge and experienced gained in a lifetime is never lost



PARTING THOUGHTS

*“I have trust that we humans can resolve the problems that we have created.
There is a Sanskrit saying that I subscribe to and I like very much”*

“God sleeps in the minerals,
Awakens in plants,
Walks in the animals,
And thinks in mankind”

Edgar Mitchell

FOR FURTHER INFORMATION

- ▶ Edgar Mitchell
 - ▶ Benard Carr
 - ▶ Bernado Kastrup
 - ▶ Christoff Koch
 - ▶ Christopher Bache
 - ▶ Rupert Spira
 - ▶ Donald Hoffman
 - ▶ David Chalmers
 - ▶ Giulio Tononi
 - ▶ Bernard Carr
 - ▶ Federico Faggin
 - ▶ Michael Levin
 - ▶ Ruper Sheldrake
 - ▶ Plus many others
- ▶ Awaken.org
 - ▶ Essentia Foundation
 - ▶ Fetzer Institute
 - ▶ Galileo Commission
 - ▶ Global Coherence Pulse
 - ▶ Heart Math Institute
 - ▶ Humanities team
 - ▶ Institute of Art and Ideas
 - ▶ IONS
 - ▶ Science and Non-Duality
 - ▶ Science and Medical Network
 - ▶ Tiny Blue Dot Foundation
 - ▶ Plus many others