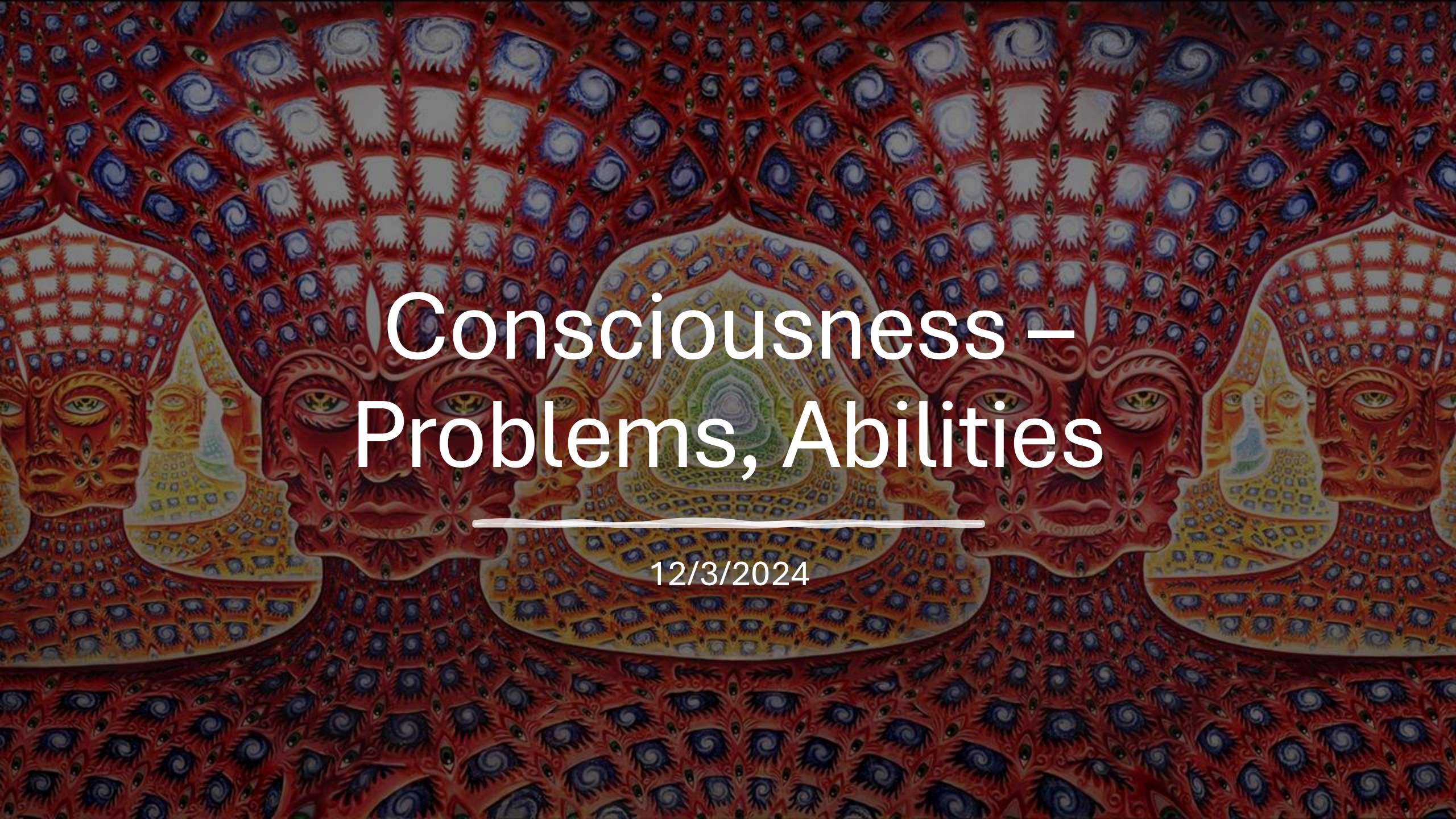




Consciousness – Problems, Abilities

12/3/2024

What is consciousness?

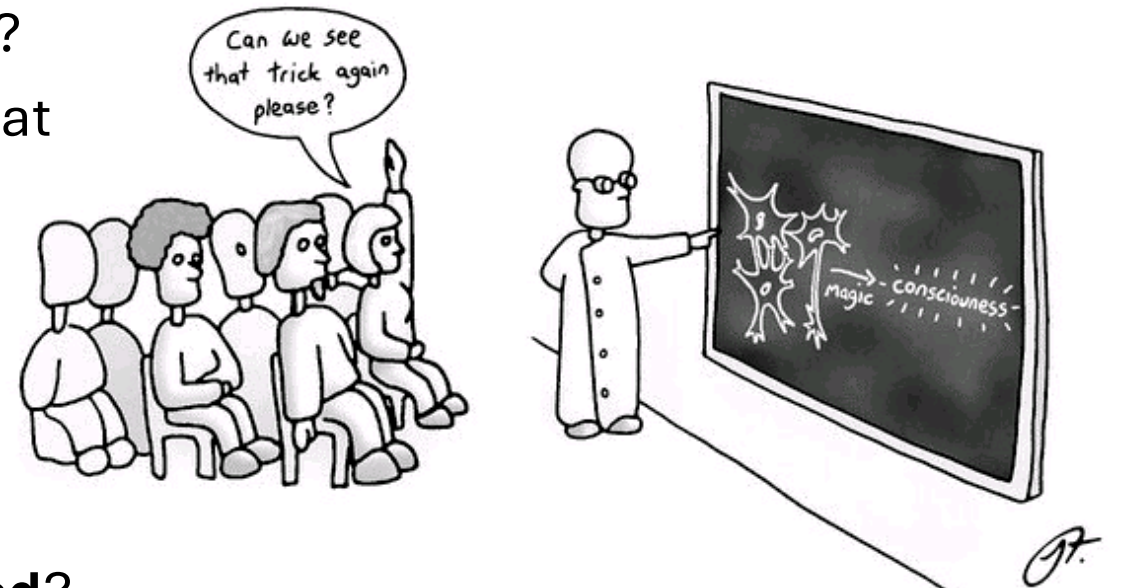
- “Consciousness” is a very sloppy word, and it gets used in a variety of sloppy ways. Imagine if we referred to electromagnetism as “chargedness” and we talked about the mysteries of attraction and repulsion with no semblance of a unified theory. That is the state of consciousness science.
- **Consciousness**: sense of awareness and self-awareness
 - **Sentience**: experiencing sense perception; inner *feeling*
 - Stuart Hameroff: “that which goes away under the use of anesthetics”
 - **Qualia** (plural of quale): direct instances of experience
 - the taste of an apple, the pain of a headache

Some common uses and trappings of the word “consciousness”

- Moral activism: a “conscious consumer”
- A form of solidarity: “class consciousness” or “racial consciousness”
- Intelligence: equating consciousness with being smart
- Volitional: to do something “consciously”
- A vague, mystical force: “everything is consciousness, man”
- A binary waking state: you are either conscious (awake) or not
- Entirely private: overemphasizing subjectivity, ignoring the possibility for shared conscious experiences
- Purely material: reducing it to brain activity
- Purely immaterial: detaching it entirely from the physical world, when it clearly somehow interacts with the physical world
- Ownership: “your consciousness”

Problems of Consciousness

- Who is the **I** that experiences consciousness?
- Why am I conscious of only some things? What determines what I am conscious of?
- How does consciousness relate to cognitive processing?
- The **binding problem**: how do different sensations get bound together into a single unified experience?
- How can a **state of consciousness** be altered?
- Are there **neural correlates of consciousness**?
- The **hard problem**: What is the relationship between the physical brain and consciousness? Why does neural activity feel like something?



Consciousness poses the most baffling problems in the science of the mind. There is nothing that we know more intimately than conscious experience, but there is nothing that is harder to explain.

David Chalmers

[Low, P. The Cambridge Declaration on Consciousness. Proceedings of the Francis Crick Memorial Conference, Churchill College, Cambridge University, July 7 2012, pp 1-2.]

*The Cambridge Declaration on Consciousness**

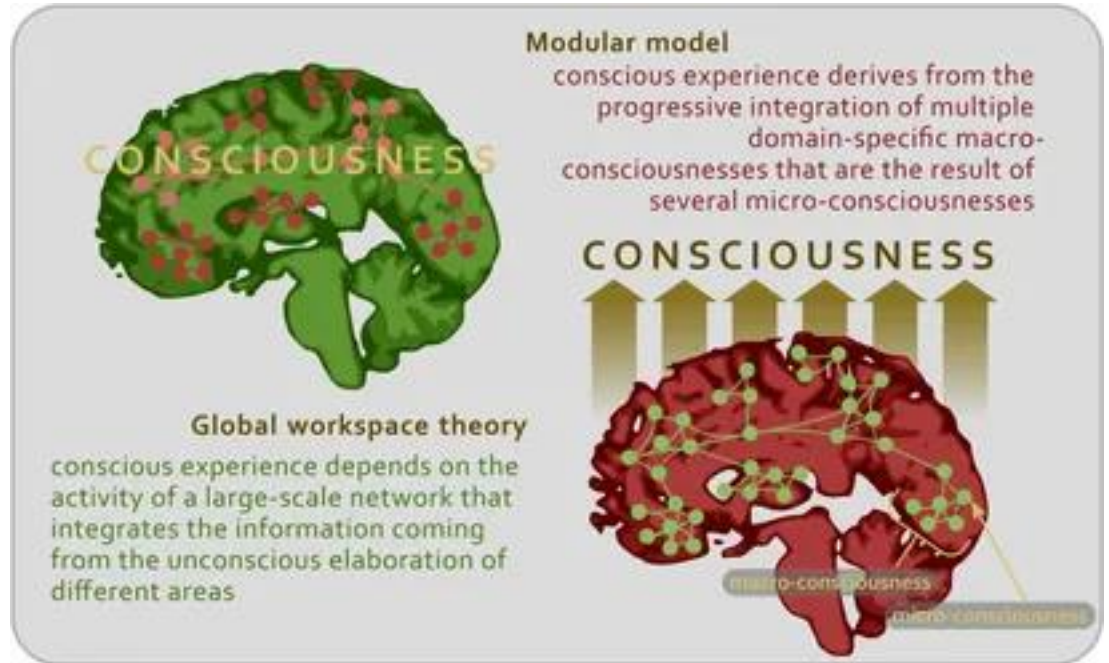
We declare the following: “The absence of a neocortex does not appear to preclude an organism from experiencing affective states. Convergent evidence indicates that non-human animals have the neuroanatomical, neurochemical, and neurophysiological substrates of conscious states along with the capacity to exhibit intentional behaviors. Consequently, the weight of evidence indicates that humans are not unique in possessing the neurological substrates that generate consciousness. Non-human animals, including all mammals and birds, and many other creatures, including octopuses, also possess these neurological substrates.”

Is everyone conscious?



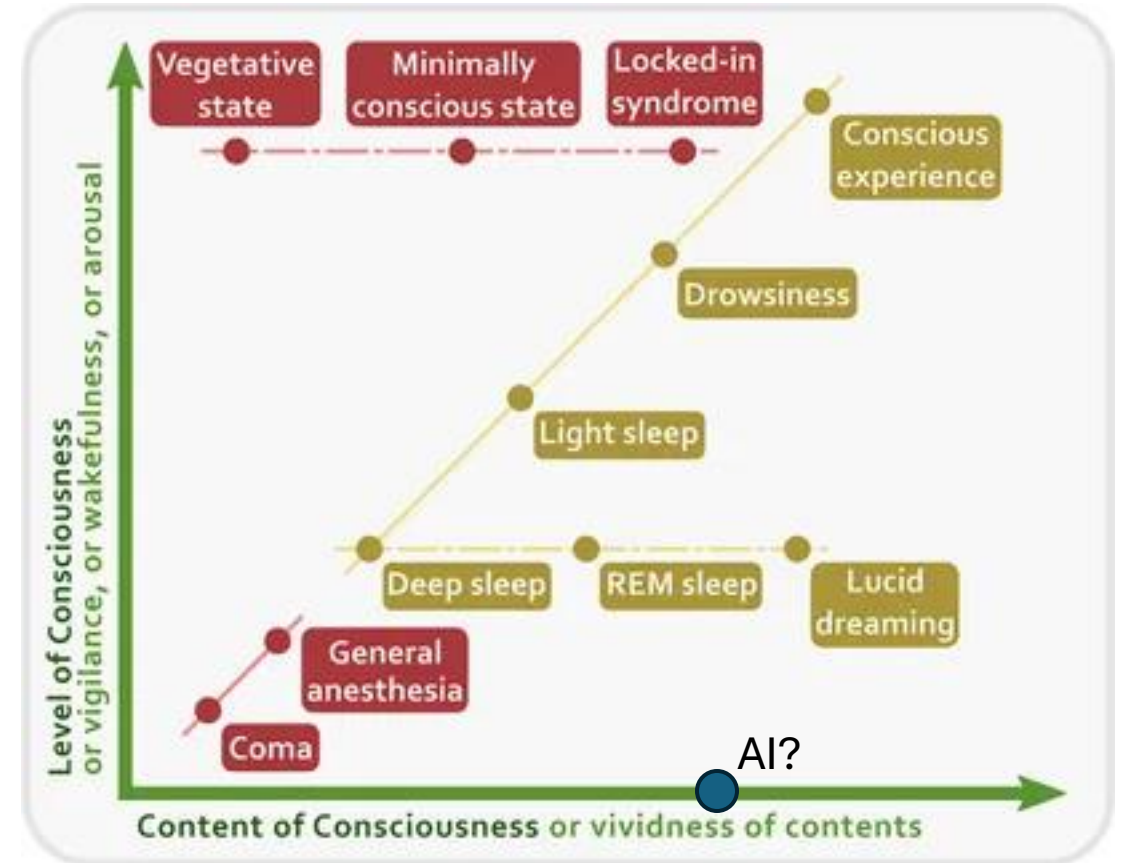
Is consciousness modular or global?

- **Modular:** we are composed of smaller micro-consciousnesses that somehow combine
- **Global:** our consciousness only exists at the whole-organism level, through a specific type of information integration



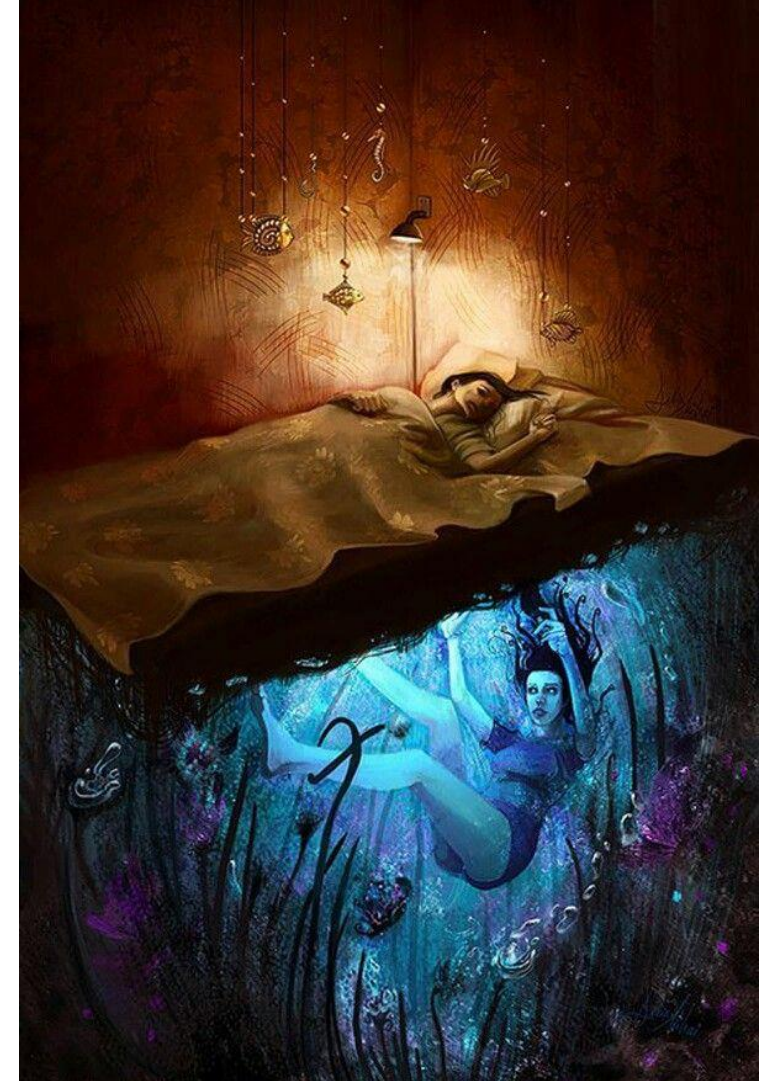
States of consciousness – level and content

- We can differentiate the **level** of arousal or wakefulness from the **contents** or information depth of consciousness
- **Phenomenal** consciousness: experience itself
- **Access** consciousness: information you have access to
- These are distinct: you could say AIs have a form of access consciousness with zero phenomenality

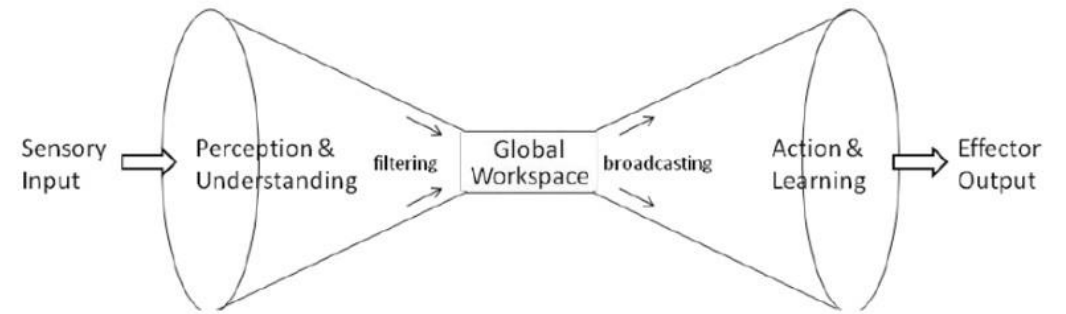


Sleep

- **Sleep:** a reversible state characterized by reduced awareness, responsiveness, activity, and metabolism; during which energy restoration, repair, and memory consolidation often takes place
- Sleep is nearly universal across life forms
 - Mammals and birds exhibit REM states
 - Reptiles, amphibians, fish, insects, and even jellyfish and nematodes have deeply restful periods or phases
 - Plants have circadian rhythms that regulate activity cycles
 - Even single-celled organisms have rhythms of activity and rest, suggesting a primitive form of sleep and wake existed in the deepest roots of evolutionary history



Global Workspace Theory (GWT)



- Why are you only conscious of what seems like a small portion of your mental activity?
- **Global workspace theory:** a cognitive model that tries to explain which information becomes conscious among competing inputs
 - **Attention** determines what information is broadcast to the **global workspace**, allowing that information to be accessible to multiple systems (memory, language, decision-making)
 - **Frontoparietal network** (FPN) is the core of the global workspace, which interacts with **thalamus** (relay hub), **sensorimotor** cortices, **basal ganglia** (action selection), and **midbrain** structures (wakefulness regulation)
- While often treated as a “theory of consciousness,” it is more a theory of the cognition underlying consciousness. It assumes the hard problem of consciousness (how/why?), and it addresses easier questions (what?)

What is it possible to be conscious of? What are the extremes?

- Sensory modalities can be refined to an extraordinary degree
 - Musicians that can tell one instrument in 100 is slightly out of tune
 - Kobe Bryant could tell the rim was a quarter of an inch off
- **Savant syndrome:** when an individual demonstrates exceptional abilities in a domain, with deficits in others (usually social)
 - Daniel Tammet experiences numbers as having their own shape, color, and texture, allowing him to perform calculations and recognize the correct digits of pi through this unique **synaesthesia**



I recited Pi to 22,514 decimal points in five hours and nine minutes. I was able to do this because of weeks of study, aided by the unusual synaesthetic way my mind perceives numbers as complex multidimensional coloured and textured shapes.

Daniel Tammet

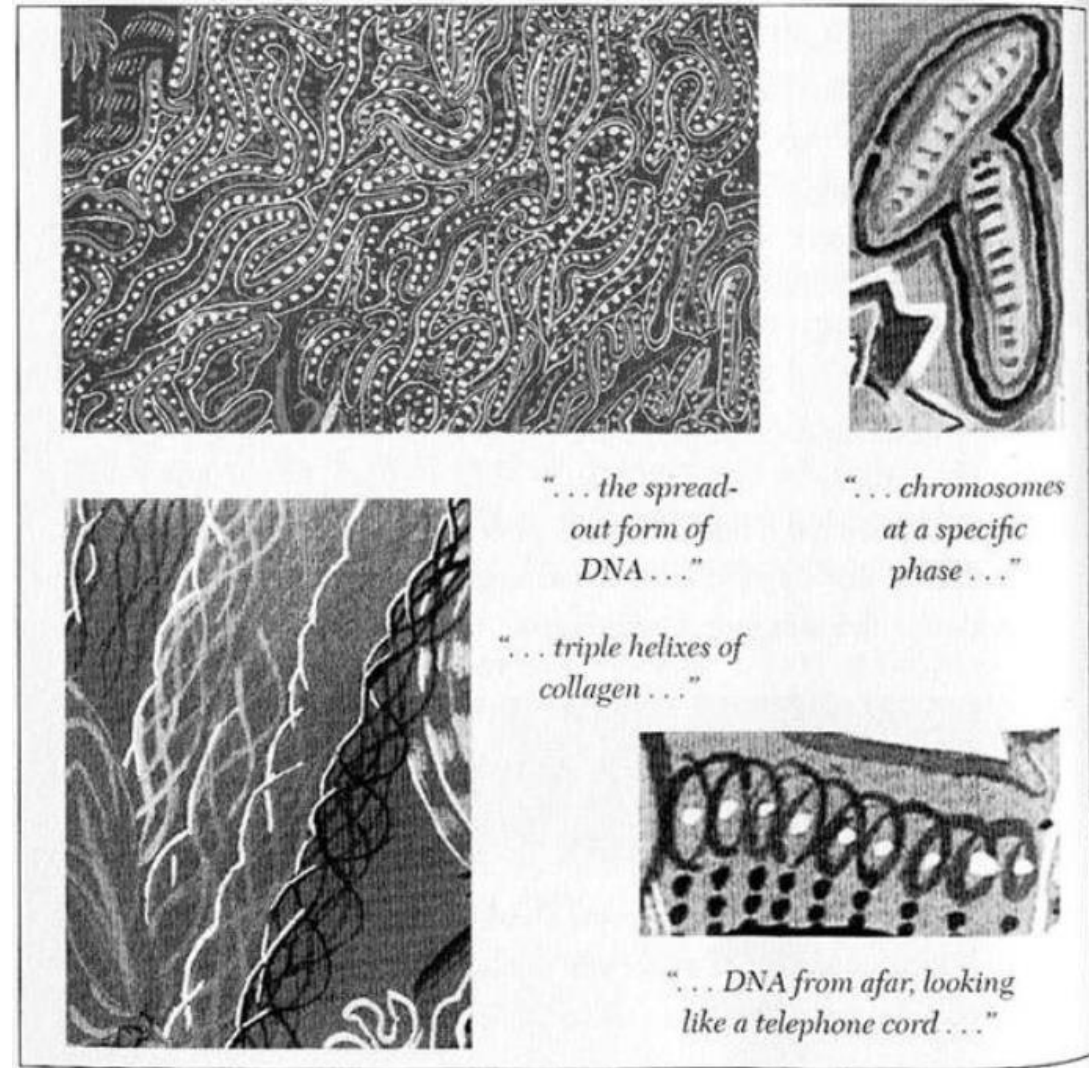
Heightened abilities in mystical traditions

- Tibetan Tummo practitioners demonstrated such heightened interoceptive awareness and control over autonomic functions that they could dry wet sheets placed on their backs in freezing Himalayan temperatures
- Yoga practitioner Swami Rama demonstrated an ability to control his heartbeat at will, and control blood flow to specific limbs
- Indian fakirs that can walk on hot coals, transcending any pain
- Padre Pio and St. Catherine of Siena could “see” the hidden sins and spiritual ailments of people, allowing them to “diagnose” and heal others



Ayahuasca visions

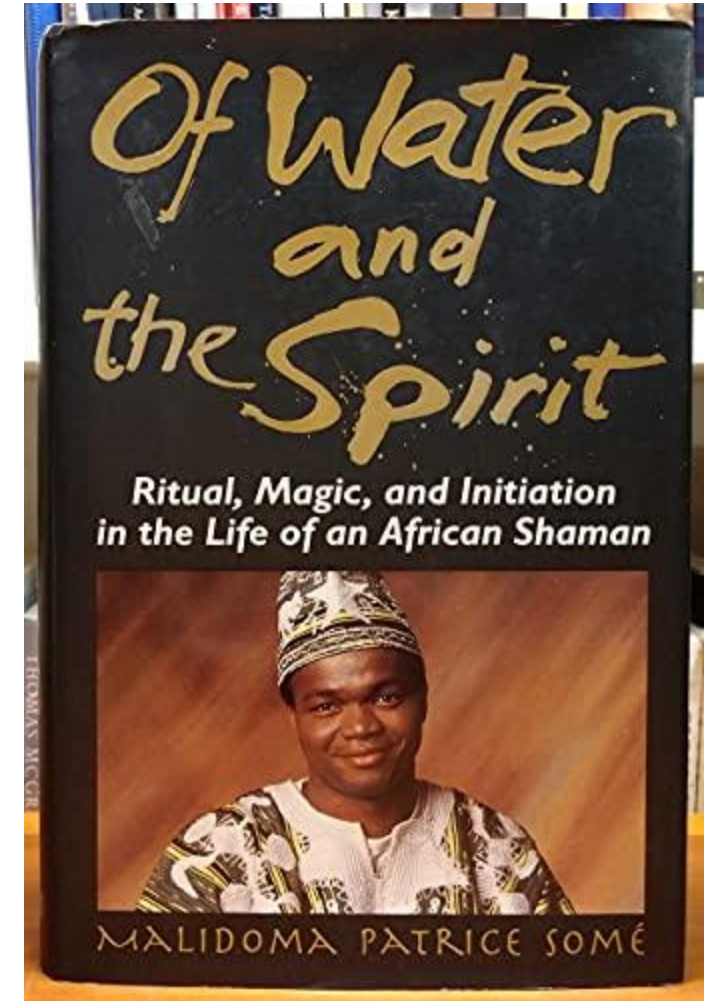
- Ayahuasqueros (ayahuasca shamans) can reportedly use the visionary state produced by ayahuasca to “see” microscopic structures inside the body
- They will see energetic blockages and sing *icaros* that call in beneficial spirits to clear the ailment
- *I showed these paintings to a friend with a good understanding of molecular biology ... “Look, there’s collagen. . . . And there, the axon’s embryonic network with its neurites. . . . Those are triple helixes. . . . And that’s DNA from afar, looking like a telephone cord. . . . This looks like chromosomes at a specific phase. . . . There’s the spread-out form of DNA, and right next to it are DNA spools in their nucleosome structure.”*
 - *The Cosmic Serpent, Jeremy Narby, p. 69-70*



Ways of knowing

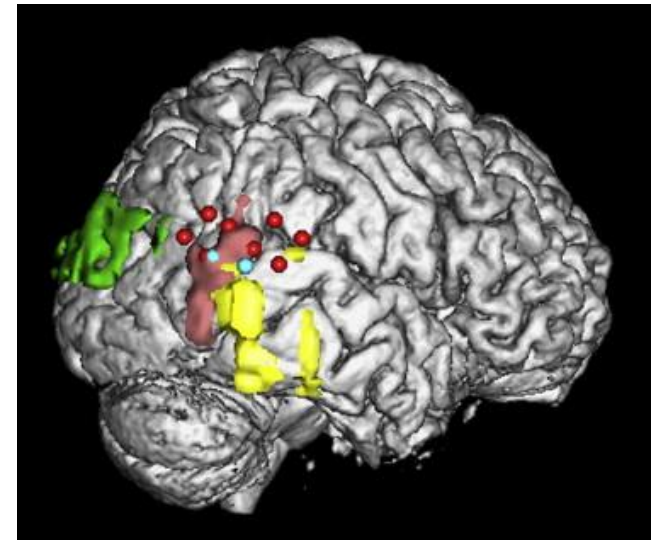
"I did not have to work hard to get my degrees... The answers to the exam questions were mostly visible in the auras of the teachers who constantly patrolled the aisles of the testing rooms. I just had to write these answers down quickly before any one of them noticed how strangely I was looking at him/her... When I was picked by the professor to reply to a question, I continued to instinctively seek the answer in his aura, as I did during exams. To me it was like being asked to read out of an open book. This method worked so well that one day one of my teachers looked at me suspiciously and asked, "Have you been reading my mind?" Of course, I said no. We were in the modern world, where such things are impossible. ... I am not writing about all these accomplishments to impress you, but to show you that what I have learned as an initiated man really works (at least for me) in Western reality."

Of Water and the Spirit, Malidoma Patrice Some, p. 5-6



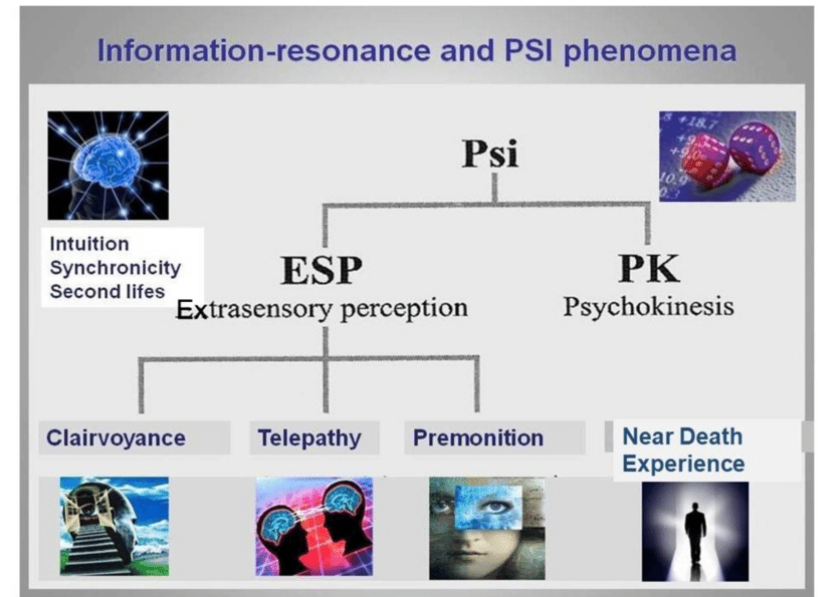
Out-of-body experiences (OBEs)

- Can occur in a variety of contexts – extreme trauma, chemically-induced dissociation, epilepsy, visionary state, near-death experiences (NDEs)
 - People often report an experience of “looking down” at their body
 - In the most extraordinary scenarios, people are able to access information that there is no conventional explanation for
- More ‘ordinary’ versions of OBE-like states can be induced through stimulation of the right temporal parietal junction (rTPJ), or through use of tech (VR) to create a multisensory conflict
 - Multimodal integration at this site central to sense of body
 - The brain’s “best guess” prediction is so mismatched, it feels like you are somehow detached from your body



Psi research

- **Psi** is a catch-all term for what is colloquially called psychic abilities, also called **anomalous cognition**:
 - Survival: reincarnation, near-death experiences, out-of-body experiences, mediumship
 - Epistemological: precognition (knowing the future), telepathy (mind-to-mind), clairvoyance (mind-to-anything)
 - Mind-matter: psychokinesis
- **Experimenter effect**: the experimenter's beliefs and expectations will influence the outcome of an experiment
 - Use of **blinding** in experimentation was developed out of psi research!
 - Proves how difficult (impossible?) it is to be purely objective



“Formally, we can say there is incontrovertible evidence of a statistically based information transfer anomaly we currently do not understand. Yet, the five items listed in Wagenmakers and colleagues’ work to convince a skeptic have already been met not only with the U.S. government’s ESP program but others in the field as well.”

May, E. C., & Marwaha, S. B. (2015). The fundamentals of psi. In E. C. May & S. B. Marwaha (Eds.), *Extrasensory perception: Support, skepticism, and science* (pp. 1–31). Praeger/ABC-CLIO.

Remote Viewing

- “Remote viewing is the natural intuitive ability (which can be enhanced by training) to perceive and retrieve multi-form information independent from the ‘viewer’ in time, space, and dimension. All projects are produced under a scientific protocol; (planned, blind, recorded, and feedbacked)”
-- www.remoteviewed.com
- Began in the 1970s, RV was developed as a training regime and operational protocol to be used in intelligence gathering by the US military and intelligence services

Remote Viewing The Real Story An Autobiographical Memoir

by Ingo Swann
The Discoveries
The Political and Technical History
The Rise and the Fall
The Saga and the Soap Opera
The Strange Circumstances



OLGA SPIEGEL—"Ancient Future"

Highways #8, Ingo Swann (1979)

If the painter wishes to see enchanting beauties,
he has the power to produce them.



Ingo Swann

(1933-2013)

- “father of remote viewing”
- His personal research collection archived at University of West Georgia Special Collections
- Was born naturally psychic, but privately credited Scientology auditing process to honing his abilities
- “e-meter” measures electrodermal response
- “going clear” is minimizing that response to all your psychological triggers



DEFENSE
INTELLIGENCE
AGENCY

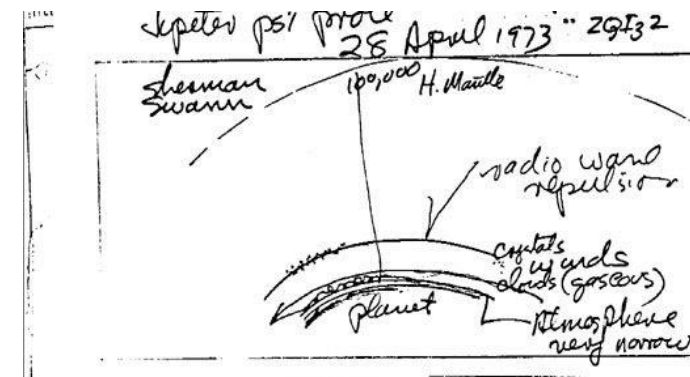
PROJECT GRILL FLAME (U)



PROJECT
STAR GATE

SECRET NOFORN LIMDIS

- Instigated by worries that Soviets had developed psychic spying abilities – “psychotronics”
 - Stanford Research Institute recruited to investigate
- “psychic spy” program: training program
 - Anyone can be trained
 - Ingo would demonstrate remote viewing by having visitors do it themselves
- Mapped levels of RV abilities
 - Begins with basic sensory impressions
 - Leads to ability to remotely influence
- Emotional salience effect: more meaningful targets were easier to remote view
- Geomagnetic effect: disturbances in the Earth’s magnetic field would impair RV abilities



Achievements

- Ingo remotely influenced a shielded magnetometer
 - Accurately described the internal machinery
- Led to more systematic testing and experiment
 - Individuals would act as remote targets
- Pat Price accurately described the layout of a classified military structure, including the names of classified programs housed there
- Anything could be a target, including distant planets
 - Accurate description of Jupiter years before Cassini probe took first close-up pictures
 - *Penetration* describes Ingo's experience remote viewing entities on the Moon
 - Mars 1 million years ago
- Many Cold War military targets like:
 - Soviet nuclear submarine
 - Downed plane
 - Lost agent
 - Much more remains classified...



Mars

The sealed envelope was given to the subject immediately prior to the interview. The envelope was not opened until after the interview. In the envelope was a 3 X 5 card with the following information:

The planet Mars.
Time of interest approximately
1 million years B.C.

SUB: Different chambers,...but they're almost stripped of any kind of...furnishings or anything, it's like ah...strictly functional place for sleeping or that's not a good word, hibernations, some form, I can't, I get real raw inputs, storms, savage storm, and sleeping through storms.

MON: Tell me about the ones who sleep through the storms.

SUB:Ah...very...tall again, very large... people, but they're thin, they look thin because of their height and they dress like in, oh hell, it's like a real light silk, but it's not flowing type of clothing, it's like cut to fit.

MON: Move close to one of them and ask them to tell you about themselves.

SUB: They're ancient people. They're ah..they're dying, it's past their time or age.

MON: Tell me about this.

SUB: They're very philosophic about it. They're looking for ah.... a way to survive and they just can't.

MON: (Plus 40 minutes, definite voltage reversal.)*

SUB: Can't seem to get their way out, they can't seem to find their way out,....so they're hanging on while they look or wait for something to return or something coming with the answer.....

MON: What is it they're waiting for?

SUB:They're ah....evidently was aa group or a party of them that went to find ah...new place to live. It's like I'm getting all kinds of overwhelming input of the....corruption of their environment. It's failing very rapidly and this group went somewhere, like a long way to find another place to live.

MON: What was the cause of the atmospheric disturbance or the environment disturbance?

SUB: I see a picture of a, picture of like a, oh hell, it's almost a warp in a, oh god, this is difficult. It's like going, let's see---

MON: The raw data?

SUB: Oh, I get a globeah...it's like a globe that goes through a comet's tail or it's through a river of something, but it's all very cosmic. It's like space pictures.