



Consciousness in Philosophy, Faith, and Science

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The thread of the talk



- ▶ What is consciousness?
- ▶ Ideas of consciousness in Western philosophy and faith
- ▶ Consciousness as a topic in science
- ▶ Consciousness in Eastern philosophy and spirituality
- ▶ Consciousness in our lives



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What is Consciousness?

From the Oxford English Dictionary and Merriam Webster

- The state or fact of **being mentally conscious or aware of something**
- The faculty or capacity from which **awareness of thought, feeling, and volition and of the external world** arises
- The totality of the impressions, thoughts, and feelings, which make up a **person's sense of self** or define a person's **identity**
- The **collective faculty of an aggregate of people**; a set of **shared ideas and beliefs**
- Specifying **areas of consciousness: moral consciousness, religious consciousness, ...**
- **Aware of** and responsive to **one's surroundings**, as the normal condition of **waking life**
- The quality or state of **being aware of something within oneself**

The theater of consciousness

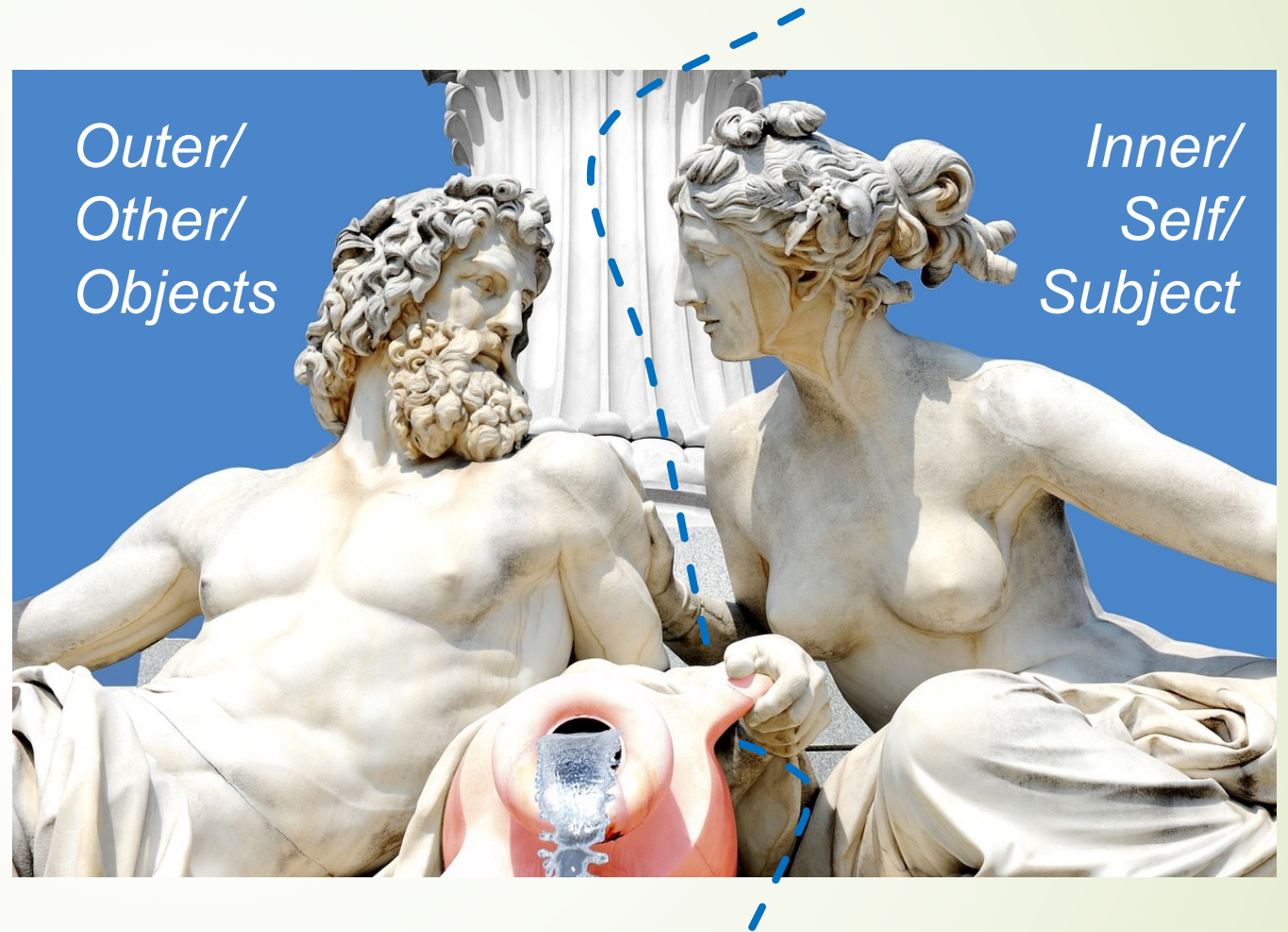
- From these definitions, we infer that the overall structure of consciousness can be viewed as awareness plus its contents
- Awareness is like a TV drama in which objects of consciousness such as images, physical sensations, feelings, perceptions, thoughts, intentions, and emotions, play their roles
- We call this drama the “mind”



AS AWARENESS TURNS

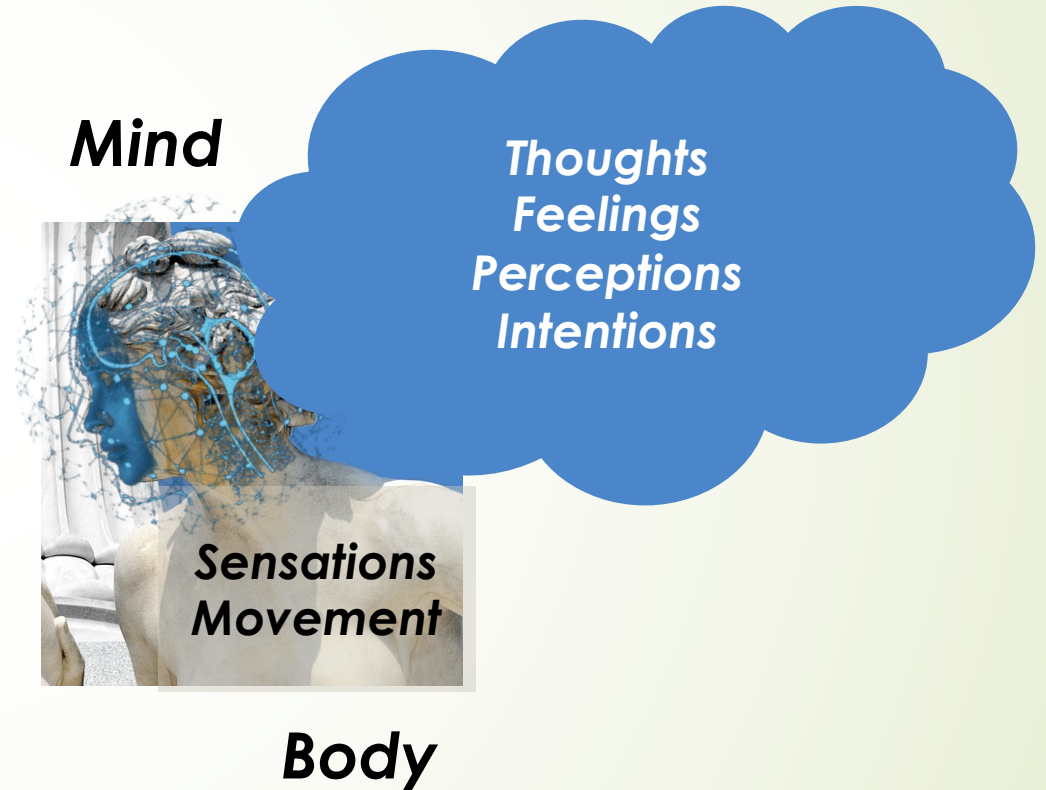
Self and Other

- Consciousness includes awareness of a self that is taken to be the owner of one's "inner" experience
- Objects not identified with "self" are by elimination presumed to exist in the "outer" world
- The self identifies strongly with certain inner objects like the intellect and the will, and with consciousness generally
- The self identifies somewhat less strongly with other things like the body and its sensorium



The mind-body question

- The body is without question a physical form
- However the substantive nature of the mind is unclear
- The body can be felt directly
- The mind does not appear to have a physical extent; it feels immaterial
- The brain is a physical part of the body; it is material
- Mind and body appear not to be of the same substance



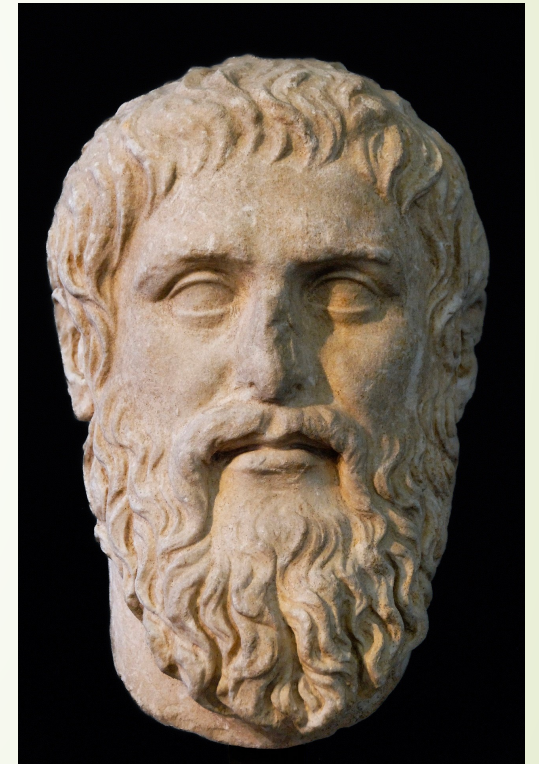
Consciousness in Western Philosophy and Religion

The centrality of the mind-body question for understanding the nature of mind

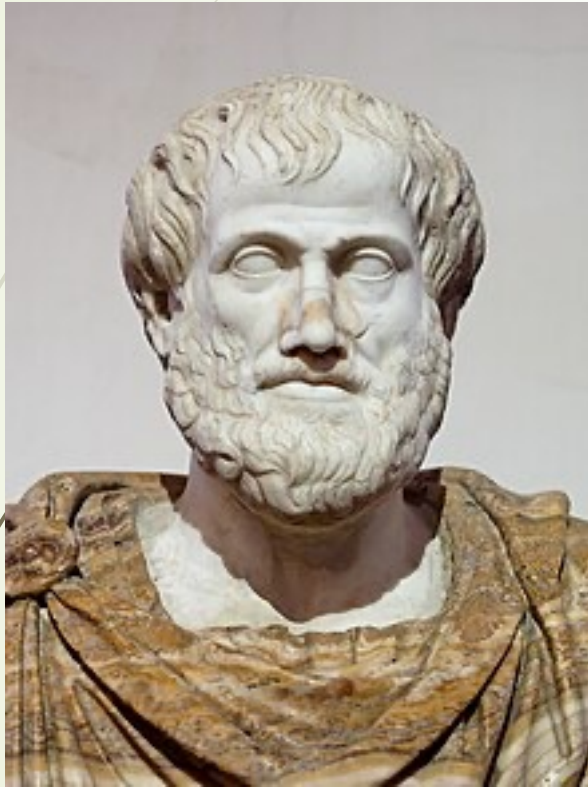
- ▶ The body-mind question has played a prominent role in thinking about the nature of mind
- ▶ If the mind is material, then why can't it be located in the body? Where is the organ of the mind?
 - ▶ An experiment: Try to find the edge or boundary of your mind
 - ▶ Can it be found?
 - ▶ How can the mind be confined to the body, when thoughts appear infinite?
- ▶ If the mind is immaterial, how is it possible for it to influence a material body?
- ▶ Is the mind of the same substance as the soul or God?

Plato, reality, and the mind

- The ancient philosopher Plato speculated about the nature of reality and its relationship to the soul and body
- In the Republic he used the Allegory of the Cave to argue that the world that appears to our senses is illusory and unreliable, merely the shadows of eternal forms cast by the light of a fire on the wall of a cave
- For Plato, the human mind is contained within the soul, which is perfect, and cannot be equivalenced with a physical body that is incomplete and ever changing
- The soul and mind possesses the faculty of reason, which alone is capable of truly discerning reality, and is that part of man that survives death



Aristotle and the mind-body question



- Aristotle saw the mind-body question in a different light than Plato
- To Aristotle, the soul is what actuates the body fulfilling its potential for movement and reasoning
- He saw the material body as a golem: inanimate yet having the potential for life once the soul fulfills that potential
- Aristotle believed that reason could not arise from the physical brain alone because he could not see how a finite material brain could accommodate the unbounded character of thought
- To Aristotle, the soul was an essential, immaterial property of the material body

Descartes' view



- Descartes was a rationalist philosopher of the French Enlightenment who believed there were two principle faculties of mind: the power of perception and the power of will or judgement
- He argued that "Pure" Intellect requires nothing from the senses (the body), but that there are "less pure" forms of intellect that do, like sense perception, imagination, and corporeal (body) memory
 - He believed that mind and body were of different "substances" (substance dualism)
- Truth is known by its clarity as affirmed by the will, that is, through the judgement of pure intellect
- Descartes' famous affirmation of rationality and the superior judgement of the will was "I think, therefore I am"

St. Augustine: a Christian view of mind and body



- St. Augustine was a profound philosopher and theologian of the Medieval Christian era
- To Augustine, the soul is the source of all perceptive, rational, and contemplative powers
- These powers mirror the rationality of God, the ultimate source of spiritual and natural law
 - Augustine believed that faith and reason are inseparable
- To address the question of how an immaterial mind can influence a material body, he saw the soul as occupying its position between the body and God who's wisdom and love are infinite
 - In that way God's grace bolsters man's free will and balances humankind's sinful inclinations

Self-awareness and free will in Judeo-Christian teachings of morality

- Christianity teaches that humans are morally inclined toward sin at birth
 - This inclination, however, can be rebalanced with God's grace
- The Torah teaches that God has given human beings the choice to live a virtuous life and has already balanced their good and evil inclinations at birth
- The Qur'an appears to simultaneously teach predestination and free will
 - As God is all-knowing and all-powerful, everything that has happened or will happen is commanded by him
 - At the same time, the faithful will be held accountable on judgement day
- While this seems paradoxical, I believe this is a faith teaching
 - Not blind faith, but more like a teaching in non-dual truth like a Buddhist koan
 - A koan is a puzzle where two things that appear irreconcilable are held in the mind without judgement
 - The rational mind eventually lets go of the paradox, and the heart opens in acceptance
 - In Christianity, the oneness of the Holy Trinity might be viewed as a koan



Consciousness and Science

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Science: The natural philosophy and non-theistic faith

- ▶ Scientists, being naturalists, do not believe consciousness has a supernatural component
 - ▶ Although consciousness might have an *immaterial* one – something we will revisit later
- ▶ Science is a game where one is required to go as far as possible assigning natural phenomena to natural causes
 - ▶ Otherwise it's not science anymore – it's something else
- ▶ Consciousness is as difficult a problem as science has ever taken up
 - ▶ So difficult that scientists have traditionally avoided pursuing the quest to understand consciousness except in a few areas
 - ▶ That reluctance has been changing



Psychology and Consciousness

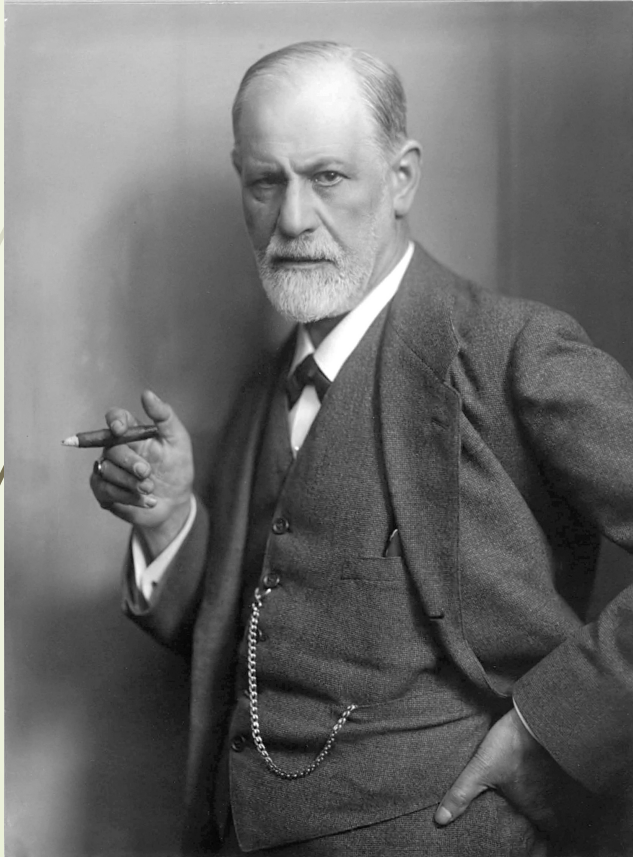
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The science of mind



- Psychology is the science of mind and should naturally address consciousness in some manner
- Psychologists, like the rest of us, have no way of knowing what other people are thinking, feeling, or perceiving
- They have to rely what people report about their subjective experience
- There has always been a subjective component to psychology

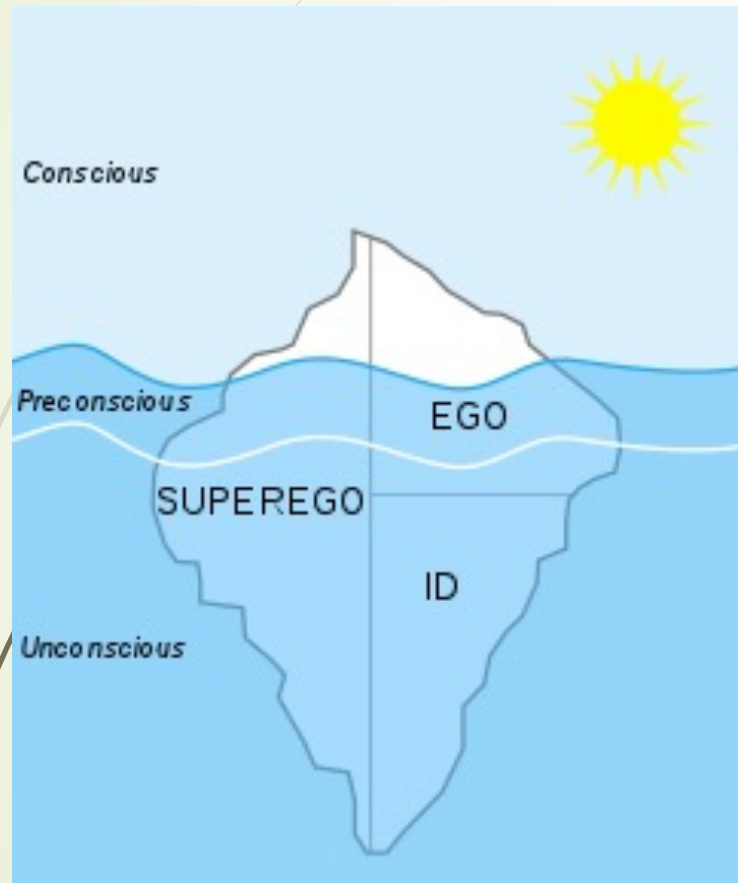
The structuralists



- ▶ Perhaps the most famous psychologists of all time were Sigmund Freud and Carl Jung who practiced clinical psychology in the late 19th and early 20th centuries
- ▶ Their methods were based in part on their structural theories of consciousness



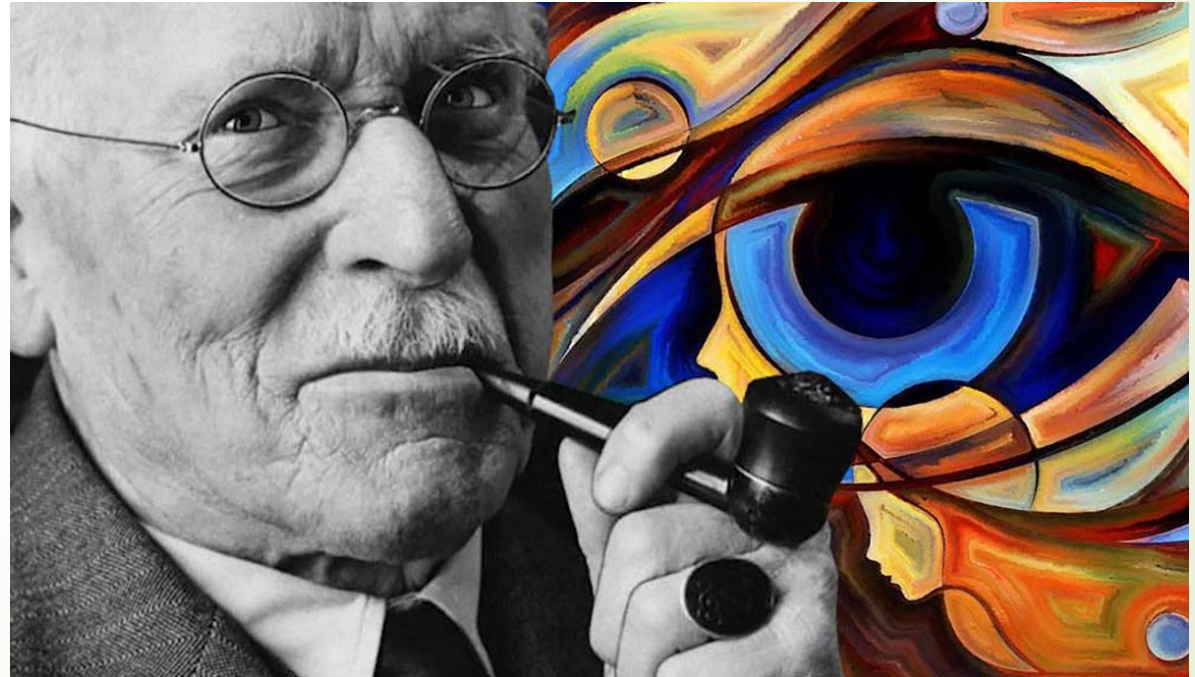
Freud and the Subconscious



- In Freud's theory, there were three states of mind:
- Consciousness – what we are actively aware of,
- Preconsciousness – what we could be aware of, and
- The Unconscious or Subconscious – things of which we are unaware, but that nevertheless condition behavior
- Freud believed that psychological disorders came from conflicts between the conscious and unconscious mind
- He made further divisions in structure to include:
 - The id – instinctual and physical,
 - The ego – that which we regard as self, and
 - The superego – that which moderates ego and id

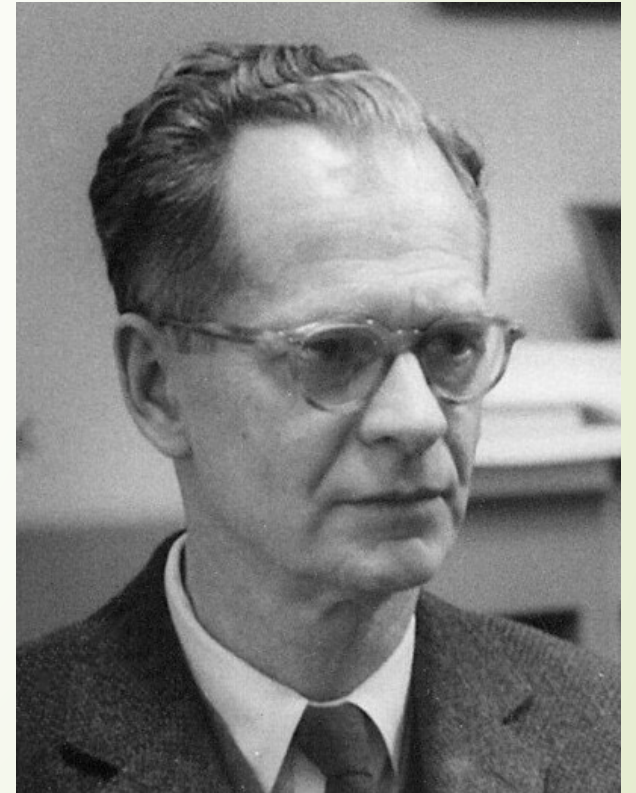
Jung and the Collective Unconscious

- ▶ Jung, who broke with his mentor Freud over details of his theory, also believed that much of the conditioned mind is unconscious, and created a further division within the unconscious mind – the collective unconscious.
- ▶ The collective unconscious represents deep, inherited conditioning related to language, culture, belief, and would these days have included genetics



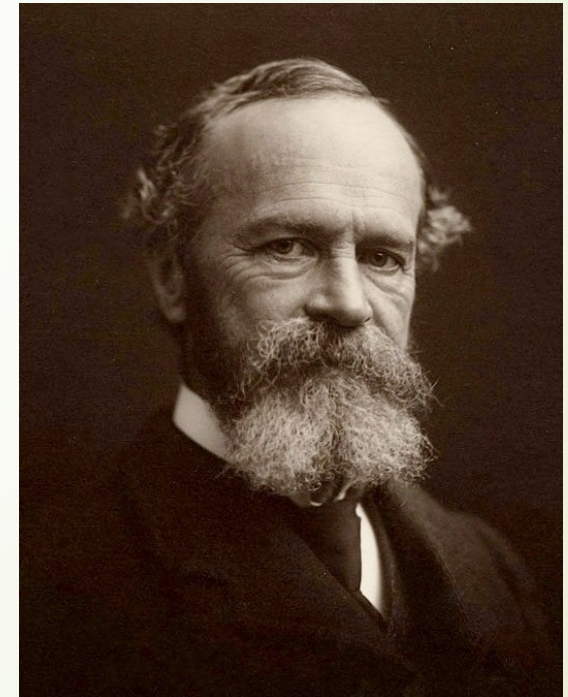
The rise of Behaviorism

- Behaviorism emerged in the 1900s with the book “Behaviorism” (1925) by John B. Watson as a reaction to structural psychology and to make psychology more “scientific”
- Behaviorism’s most famous proponent was B.F. Skinner
- Behaviorists rejected methodology based on introspection in favor of the direct observation of stimulus and response
- The net effect of behaviorism was to render subjective experience, and consciousness, irrelevant to psychology from about 1920 though the mid-1950s



Functional and cognitive psychology

- ▶ Functional psychology was partly a reaction to behaviorism, and partly a wish to integrate psychology with neuroscience
 - ▶ Functional psychology, inspired by the evolutionary theories of Darwin, is interested in what the mind does, and particularly how what it does serves biological adaptation
- ▶ Functional psychology was founded by the influential philosopher and psychologist William James who also explored such things as religion and mysticism
 - ▶ It was James who wrote the book “The Varieties of Religious Experience” that details elements of mystical experience across different cultures and traditions
- ▶ Some of the mental functions considered biologically adaptive are hunger, sleep, fear, memory, language, sexual attraction, play, laughter, selective attention, and cognitive dissonance





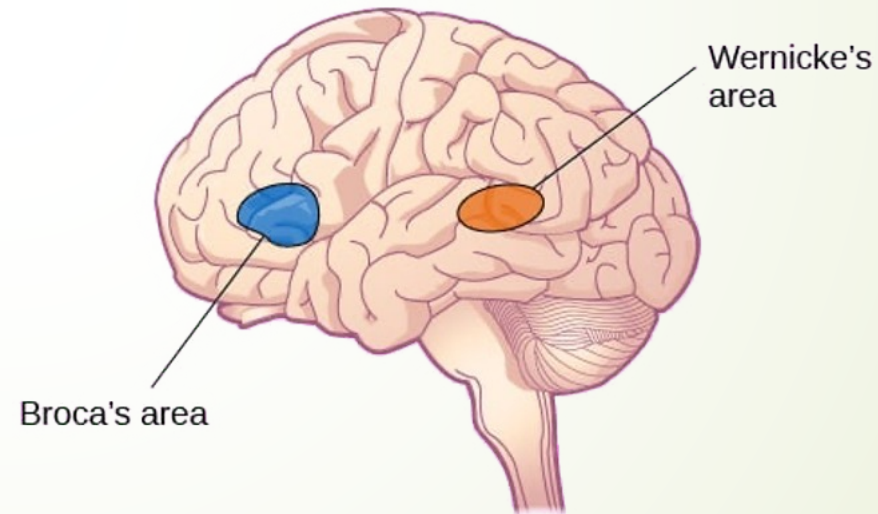
Neuroscience and Consciousness

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Broca and Wernicke

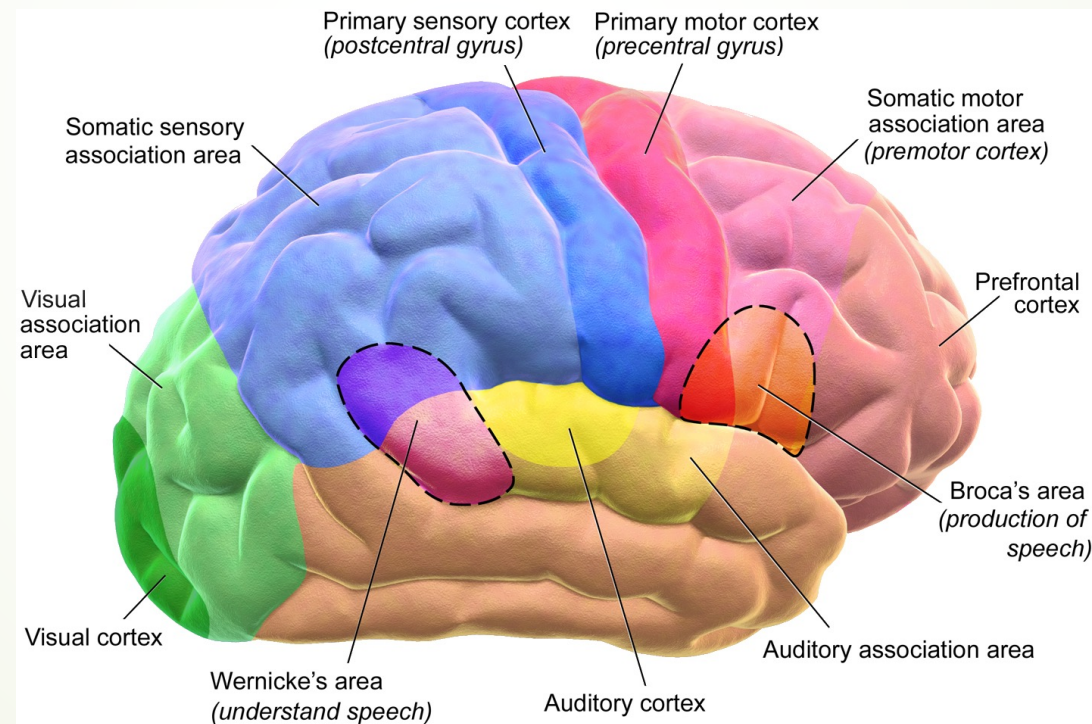
- In 1861, Carl Wernicke and Paul Broca provided anatomical proof of the localization of language in the brain
- They did this by identifying lesions in the left hemisphere of the brain of an aphasic patient

- These areas are called Broca's area and Wernicke's area, and appear to be responsible respectively for the production of language and its comprehension.



Mapping the brain

- Neurologists have continued to learn about the brain from knowledge acquired as a result of injury, anesthesia, surgery, stimulation, instrumentation, and imaging, amassing a huge amount of information

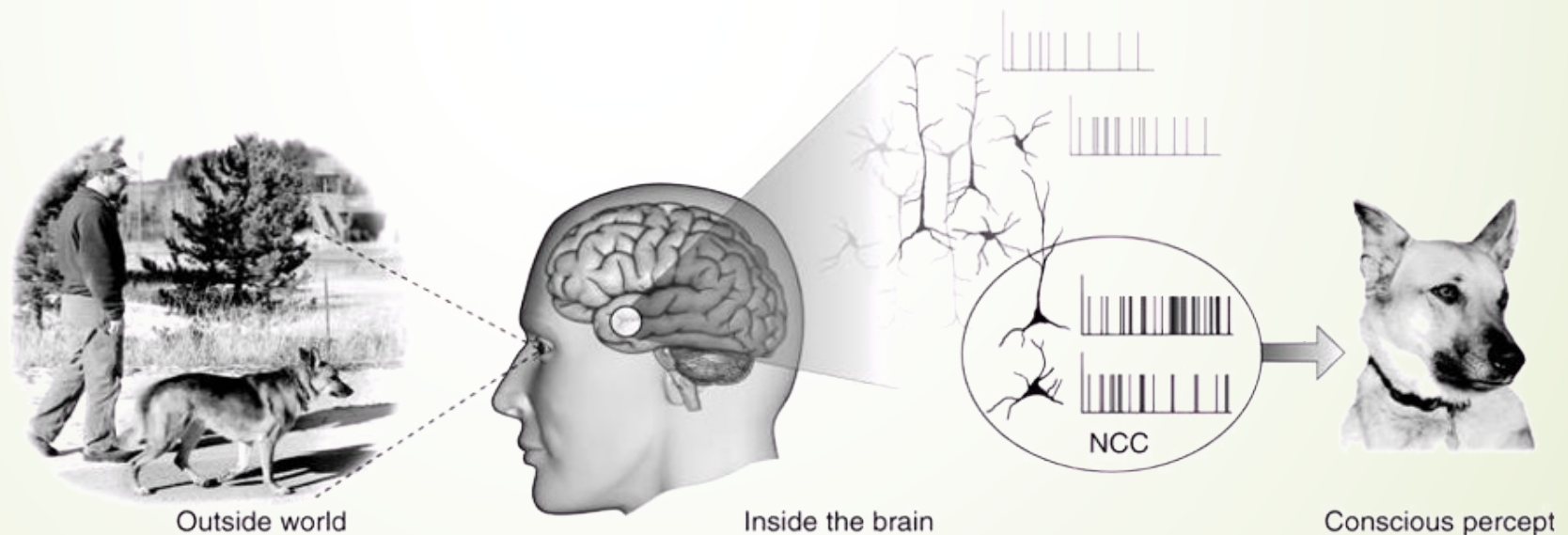


The asymmetric brain: myth and reality

- **The hemispheres of the brain are not symmetric**
 - Language processing and things like analysis, logic, abstract ideas, facts, and math originate on the left side of the brain,
 - While, creativity, intuition, art, music, emotions, and imagination come from the right side
- This is largely a myth**
- This is reality**
- ***Both hemispheres participate in all functions, but left and right attention profiles are distinctly different***
 - Left hemisphere attention is focused, while right brain attention is broadly vigilant, alert, and sustained
 - The left deals with one thing at a time, while the right likes to work with many
 - The left prefers to refine what it knows; the right prefers new experiences
 - In problem-solving, the left selects the most familiar solution, while the right casts about to include as many possibilities as it can
 - The left divides and discriminates, while the right synthesizes and integrates

Neural correlates of consciousness

- Does brain mapping really resolve the body-mind problem?
- To do that, what we want are scientific findings that tie physical processes, occurring in the brain and elsewhere in the body, to the reported subjective experience of subjects
 - This is the search for neural correlates of consciousness (NCC)



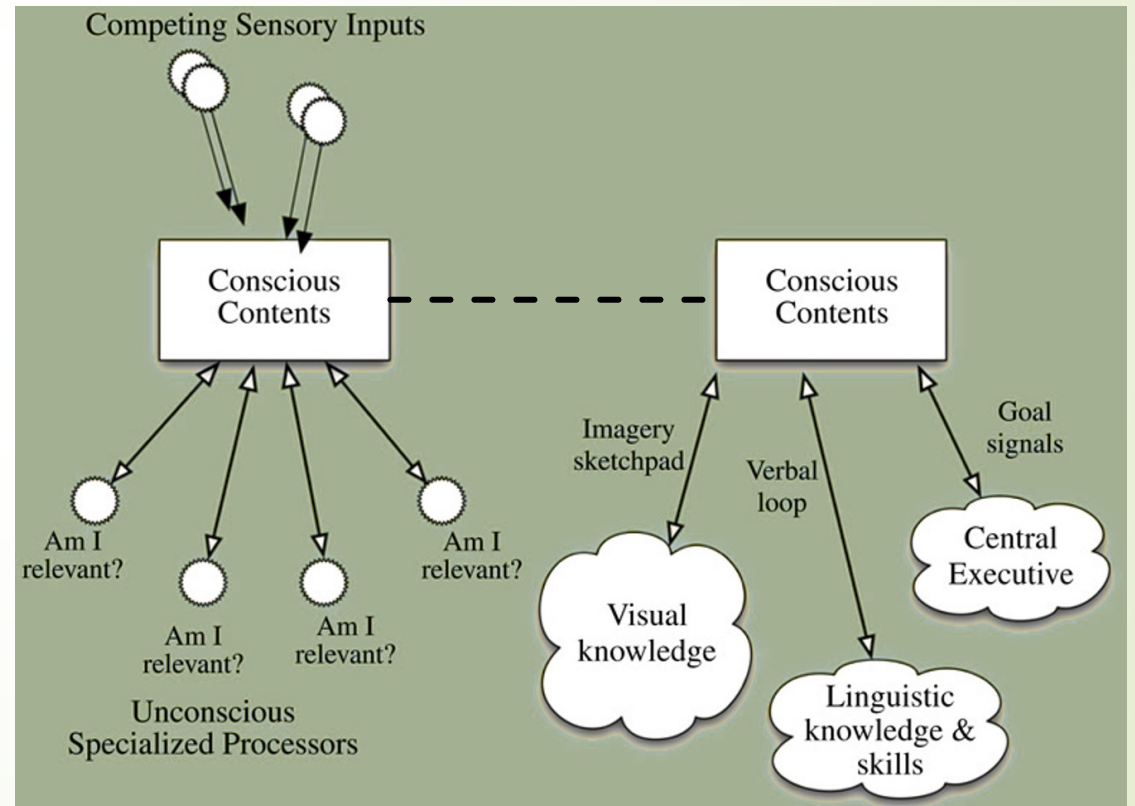
Theoretical Models of Consciousness

Consciousness is integrated information

- One of the themes that has emerged from studying neural correlates of consciousness is the idea that integrated information and consciousness are closely related
- Normally, the mind is unaware of the many unconscious sensations and thoughts originating in the body unless the information is synthesized in some way that allows the consciousness threshold to be crossed
 - It then appears to the mind as conscious experience
- There are two computable models of consciousness based on this idea,
 - The Global Workspace Theory (GWT), and
 - Integrated Information Theory (IIT)

Global Workspace Theory

- Global workspace theory, proposed by Bernard Baars in 1988 and developed by Stanislas Dehaene and others, is a qualitative, cognitive architecture to describe the integration of unconscious processes into a global, conscious experience
- It is inspired by computer architectures where signals from different areas of computation are brought into working memory for synthesis
- Competition among unconsciously processed signals in local regions of the cortex are broadcast to the global workspace where they become consciously accessible

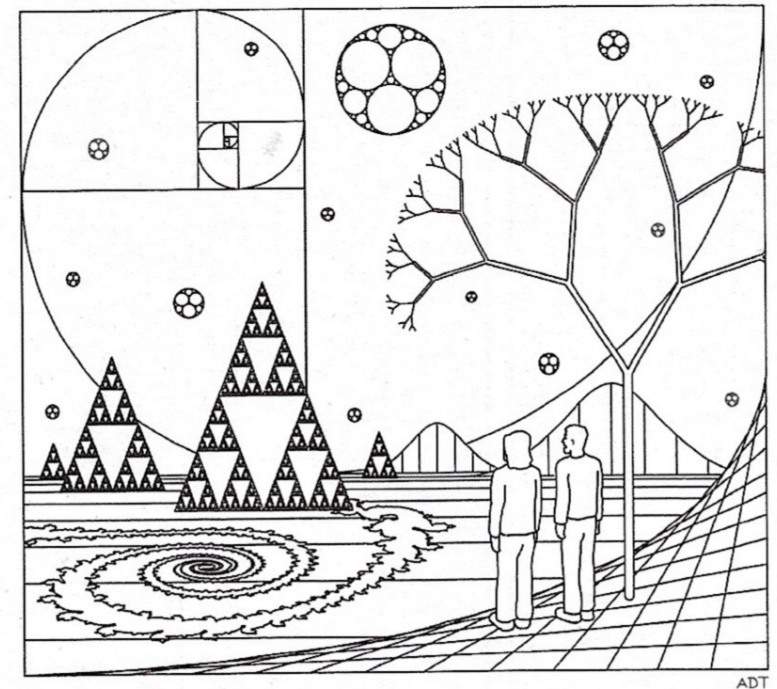


Integrated Information Theory

- **Integrated Information Theory** (Tononi, 2004) presumes conscious experience exists, is real, and satisfies five axioms that should be true for a conscious entity:
 - **Intrinsic existence:** Consciousness exists and is *real*
 - **Composition:** Consciousness is structured, experience being composed from distinct phenomena
 - **Information:** Each conscious experience has information content — for instance being in a bedroom, in a bed, holding a blue book
 - **Integration:** Consciousness is *integrated information* measured as the power of a conscious networked system to effect change between past and future states
 - **Exclusion:** Each experience, each state of the system, is distinguishable in content, time, and spatial extent
- The theory maps these assertions onto a model of interacting elements in a complex network called a *substrate* postulated to possess consciousness
 - The measured cause-effect power of the network is its “integrated information” Φ representing the consciousness level of the system

GWT and IIT show promise

- Both theories are computable and consistent with ideas that link integrated information with the experience of consciousness
- Each has made predictions backed by NCC findings (though not necessarily the same ones)
- Neither can explain how consciousness, equated now with information, a non-material substance, actually arises
- Neither currently resolves the mind-body puzzle



"I'm finding these drugs a bit mathy."

(from the New Yorker)



Consciousness in Eastern Philosophy and Spirituality

Life is a dream

- ▶ To the spiritual traditions of the East, life is an illusion
 - ▶ This is not to say that it's not real, but rather that reality is not what the mind thinks it is
- ▶ To train the mind so that it can touch the true nature of reality is the goal of spiritual practice in the East
 - ▶ It's said that the most important thing a conscious being can attain in their lifetime is to wake up



Nearly all Eastern wisdom tradition have the same roots

- ▶ Their roots can be traced to the ancient Hindu Vedic sages, the *rishis*, who went deep within to search for the truth
- ▶ What they found was that underlying the appearance of the material world is a reality that encompasses all
 - ▶ They called it *Self* (capital s)
- ▶ What we take to be our individual self (small s) is a set of concepts, a story concerning an isolated individual
- ▶ A story we have been adding to since we were children
- ▶ Our true nature is much grander



Statue of Shiva, God of Destruction, Murudeshwara, India (photo by Thejas Panarkandy)

The Buddha

- ▶ The prince known as Siddhartha Gautama left a life of privilege to find the answer to a nagging question: why do human beings suffer as they do?
- ▶ After years of meditation he woke to the answer:
 - ▶ Human beings are caught in a dream that they take at face value, including the face they see in the dream mirror
 - ▶ Self-centeredness, selfishness, and taking misfortune personally leads to a life of greed, anger, and suffering over and above what inevitably comes our way
- ▶ Shifting one's perspective from a personal one that is limited, to one that is whole and infinite, cures suffering and brings contentment



Through deep introspection Prince Siddhartha became the Buddha, which means “the one who woke up”

Non-duality

- ▶ Eastern philosophies and spiritual traditions based on unity consciousness have developed throughout the East
 - ▶ Buddhism and the Vedic traditions of India
 - ▶ Taoism in China
- ▶ These traditions are sometimes called as “non-dual” because they seek to avoid becoming trapped in dichotomies
- ▶ Non-duality lessens inner and outer conflict leading to a contented life



Lao Tzu

- ▶ For Lao Tzu, the great sage and author of the Tao te Ching, the essence of Taoism is *wu wei* or non-doing
 - ▶ Wu wei is an attitude guided by a sense of wholeness and of the natural unfolding of life
- ▶ Questions about determinism versus free will are not a concern
 - ▶ Life simply *is*

“In the pursuit of learning, every day something is acquired

In the pursuit of Tao, every day something is dropped.

Less and less is done

Until non-action is achieved.

When nothing is done, nothing is left undone.

The world is ruled by letting things take their course.

It cannot be ruled by interfering.” - Lao Tzu



Lao Tzu, author of the Tao Te Ching

No self, no other, no separation

- Teachings of non-self, non doing, and non-duality do not lead to amorality
- When one realizes that boundaries exist only in the mind, and there is nothing that separates self from other, compassion naturally arises
- Compassion and love in these traditions arise, not from pity, but from the understanding that you are the other
- In Matthew 22:37–39 Christ says
 - “Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind. This is the first and greatest commandment.
 - And the second is like unto it, Thou shalt love thy neighbor as thyself”
- In non-dual traditions this second teaching is automatic because we are our neighbor
 - The first is also natural because there is nothing that separates us from the Absolute

Mind and body in Eastern spiritual traditions

- There is no mind-body dualism in Eastern wisdom traditions
- There is no mind – only sensations, feelings, perceptions, thoughts, intentions and emotions arising to consciousness
- There is no body apart from its constituents
- Both are simply mental constructs



What is consciousness in Eastern wisdom traditions?

- ▶ There are two ways in which the word is used
 - ▶ Individual consciousness (little c) is one's local view of Consciousness (big c) which is the Ultimate Reality
 - ▶ The Ultimate Reality is beyond language and concepts
 - ▶ It is simply that which is
 - ▶ Synonyms for Consciousness (big c) are the Ultimate Reality, the Ground of Being, God, Self (big s), or simply That
 - ▶ In the non-dual Hindu tradition Advaita Vedanta (advaita meaning not-two) it is said
 - ▶ **I am That, You are That, and That is all there is**

Human consciousness is precious

- ▶ In the wisdom traditions born in ancient India, human consciousness is precious
- ▶ In a culture that believes that one might have an infinite number of lives, it is considered extremely fortunate to be born a human being with a human consciousness
 - ▶ Without it, one would not be able to wake up from the dream
- ▶ Even in the West, we are becoming more appreciative of consciousness as some of us fall victim to brain injury or diseases that affect the mind
- ▶ The question is ultimately not, “What is consciousness?”
 - ▶ But what will you do with the precious human consciousness you have been given