The mind-body problem

Types of questions:

What is the mind? Is the mind something different from the body (mind≠brain)? If it is so, what is the relationship between mental events and bodily events?

* The way we answer these questions define our conception of the human being (i.e. a computer)

There a three main answers to these questions:

* Dualism
* Monism
* Functionalism

**Dualism**

**It is based on the belief that the mind and the body exist as distinct and separate entities: the mind occupies the spiritual dimension while the body is part of the material one.**

\*common in western philosophy, above all for philosophy of mind (Plato, Descartes, Leibniz) \*\*important for AI and their development (we can understand exactly how to be a mind and how to teach other things, how to be a mind)

The idea of mind ≠ body is fundamental in our history for Philosophical reasons (Popper) and Religious reasons (Christian Faith). In fact Catholicism strictly depends on this idea and for this motive it is stil widespread today.

Descartes is a promoter of Dualism and Interactionism

\*Descartes first edition of the Meditations was meant to prove the immortality of the soul, but then he changed the name when he saw he could not.

\*\*Thomas Aquinas did not agree, even if he was christian, his position was more for explaining one of the dogmas: at the day if the judgement, also the body will resurrect. (mind = body) (?)

Question: if it is so, what is the relationship between mental events and bodily events?

**Descartes:** **The mind and body interact even if they are two different substances**

Question: if their nature is different, how do they interact?

* Thinking thing = substance with the feature of thinking, so it can exist by itself independently from anything.
* I can exist independently from the body (we are alone, there is nothing for certain except the I, and that’s proved by the evil genius), nothing is existing a part from the “I”, so the “I” can exist independently.
* Descartes subsequently says that the “I” exist as a mind —> I think, I exist
* In the Descartes’ logic we can even have no body but still, the thinking capability has not to disappear.
* To think = To be conscious of (Cogitatio) and it does not imply having a mind representation of content (that is a kind of thinking) [Willing/Desiring are a kind of thinking]
* Thoughts = preposition with a content (feelings, emotions, desires..)
* Meaning of Thinking [Descartes] is wider than the one we use, it means I have a mind, my essential property is thinking, and the main feature of mental property is consciousness.

Body is a property of the mind, there is no body at all. Only minds exist. But we cannot exclude that:

(A) not only the mind is separated from the body

(B) the body can exist without a mind

* In the second meditation Descartes has proved (A)
* There is still the necessity to demonstrate (B) but we need to show the essence of body, which is to be found in the fifth meditation (where D. explains the existence of God)
* Everything we perceive is also true (corresponds to reality)

In order to prove this, we need to demonstrate there is no God deceiving us first.   
D. does his demonstration of God existence’s and that he does not deceive us (at the end of the meditations) to prove there are bodies and that someone’s body is completely different form their minds.   
This is the last thing proved by D. and it seems weird, but it represents the first thing we are sure about. This changed people’s view —> (1°) Mind (2°) Body

[Complete opposite of Aristotelian Philosophy]

Descartes’ argument for dualism (VI meditation)

**1)** I am a thinking thing (i.e. a mind that can be distinct and separate from the body)

**2)** The nature of the body is (as well) distinct and separable from the mind (V meditation)

**3)** What I clearly and distinctly perceive in such and such a way is actually in such and such a way.

3rd demonstration, what we can perceive (epistemological dimension, ontological dimension of reality)   
4th demonstration, D. shows why what we see is the reality and why we are wrong sometimes.

**4)** I perceive clearly and distinctly that my body and my mind are distinct and separable

**5)** Therefore my mind and my body are really distinct and separable.

VI Meditation (pg. 54/56/60)

* Descartes draws the conclusion from the distinction of properties (Body≠Mind)
* Bodies are extended, they can be described in *quantitative terms*
* Minds do not have any shape, they *are not extended*
* Thinking/ To be extended —> Dualistic Property

**Introduction**, Page 54:

* What I see is what really is
* My Essence is only being a thinking thing
* I might have a non-thinking thing that is a body (extended) but I am surely a thinking non-extended thing and I can exist without a body. My mind may interact with my body.

**Interactionism**:

* In the normal situation of the human being there is not doubt about having a body.

\*Aristotle criticized Plato’s dualism. The figure of the Sailor is used by D. to explain dualism, but in reality this was part of an argument against this position.

* We are not in our body like prisoners in a cage; even if it is not essential to us, it is connected to our mind in a very strict way because of sensations (pain, hunger..)
* The union between mind and body: we cannot avoid to experience all the things that are going on in our body as sensations in our mind and this is because of adaptive/ survival reasons. It is nothing like a sailor looking at a ship (while these things go on), the I and the body form a unit.
* On the opposite case we would look at the collapsing of our body like from an external point of view.

**Adaptive Function of the mind-body union:**

* We have a body for a reason, it is a **tool to survive** and it is easier for us to understand what they are for when we have one.
* In any moment signals from the body/ brain are sent to our mind and produce some sensations helpful in order to preserve ourselves (God does it the best way, which is the opposite of Plato)
* **Feelings are important for survival reasons** —> **mental states**: sensations we are conscious of and we have them since we have a body. They

**Some remarks on Descartes’ Dualism:**

* **Descartes concludes that mind and body are really distinct from an epistemological premise: the mind is better known than the body**; I cannot doubt of the mind, but I can doubt of the body. Knowledge gets from inside to outside.  The knowledge of my inner self (consciousness) is brighter(/more certain) of the one of the outside world. This is a self-evident truth for Descartes (Dannet does not agree)
* The real distinction between mind and body implies that the material world is completely deprived of spiritual or religious or ethical features and conversely that the self loses any material attribute.  The world must be described only by physics and not as God’s desire (this is important for the History of Science) \*Metaphysics is the foundation for physics.    
  **The distinction is to claim we can describe the world by quantitative means. What concerns the mind has no relation with the physical world**. (Descartes is important for modern physics) -  
  **If the soul/mind depended from physical laws there would be no freedom and everything would be determined (NO FREE WILL).** But we are not object. If we think that the mind is the output of some physical-chemical processes, is difficult to show how we are free.
* Descartes thinks that the mind and the body interact through the pineal gland, a small endocrine gland placed in the epithalamus. - Sensations occur because we have an external body but can also happen if we do not have an external body (i.e dreams)   
   - Sensations = mental elaboration of a sensory/ corporeal stimulus.   
  [Something —> Eyes —> Pineal Gland —> Mind]  
   - The body can be moved by the mind and viceversa  
   - Pineal Gland = Where the soul is located, since it is the only limb which is unique and it is as simple as the soul (so they have the same features)

**Monism**

is the theory that only one substance exists and that reality consists in only one kind of “things”

There are three different versions of it:

1. **Matter** (Physicalism) [Epicurus, Democritus, Hobbes, Bradley] - *Only physical entities exist and are situated in space and time* - In Epicurus’ opinion, everything is made of atoms and when we die, our body (which is also our soul) die as well and will be transformed in the matter we have in front of us. Then we will reincarnate and won’t have memories of our previous lives, as we do not have memories of our previous lives now.
2. **Minds** (Idealism, Spiritualism) [Mach, Berkeley, Bradley] - *Only minds exist, body do not*
3. **Neutral** (Neither Matter, Nor Mind) [Spinoza, Davidson] - We cannot say that matter is something different from spiritual energy, in this optic bodies are constructions of the mind.  
    - Quantum Physics: we cannot speak of bodies as we do in modern times (something composed by matter)  
    - New Physics: bodies are composed by energy (which is closer to the mind than the body) \*Dalai Lama shares this opinion (because of his faith in Buddhism)

Property Dualism: a middle way [Nagel page 29]

Thomas Nagel: There is only one kind of reality, physical reality, but there exist two kind of properties: mental properties and physical properties. Mental Properties cannot be reduced to Physical Properties.

* Mental Properties

- Private (privileged access)    
My sensation ≠ Somebody’s sensation. Even if somebody tried to describe perfectly what my sensation is like it will not still be like a real sensation.   
- Qualitative In fact, they belong only to the person who have them and in this sense, they are qualitative. [Qualia Argument]   
- They cannot be described in third person .Because, again, they belong to the person who experiences something

* Physical Properties   
  - Public  
   - Quantitative  
   - They can be described in third person

**Functionalism**

is the theory that states there exist only one kind of reality (physical one) but mental states cannot be reduced to it or described through their physical properties.

\*Ancient —> Aristotle’s Theory of the soul = The soul gives to the body it capacities (move, live, reason), we can know our capacities only after we use them. I.e. to cut is the function of the soul of the knife. For this reason he states the body is better known than the soul. (for Descartes is the opposite).

* Mental states are identified by what they do  
   We take about something that has a function (i.e. key) and we describe the object through its function, not through its ontological status.
* A mental state is determined by its causal relations to the sensory stimulations, or other mental states, and behavior.  
   i.e. pain is determined: modification of the body —> stimulus —> behavior   
  *It is a physical cause that gives raise to a behavior*
* Analogy mind-software, brain/body-hardware

Functionalism vs Behaviorism (part 1)

* According to Behaviorism what we call “mental” is only the answer to some physical stimuli, the disposition to act in a certain way (for instance, when I feel pain, I moan)
* We cannot say anything about the mind
* All that we know is from some stimuli we have some output
* We can describe only the behavioral part of people and act on that trough actions/ errors
* Mechanism to teach people how to think through rewards or pain
* We cannot use private language to speak of mental states except if we look at the behavior that we have (we cannot understand the internal processes but can look and describe the external behavior)

**Logical Behaviorism: Gilbert Ryle’s critique to Descartes’ dualism**. The “Ghost in the machine”

* The idea that we have of our mind is a mistake, a category mistake
* For example “The foreigner visiting Oxford’s university”

Category Mistake

* We look at the mind the same way the foreigner looks at the University: We try to look for something that unifies our feelings/ consciousness/ desires… but there is nothing like it and we cannot know it even if we admit it
* There is nothing like a mind, it’s just our habit to describe a unifying element of these processes

**Ryle’s conclusion and proposal**

* The mind is nothing but the behavior that we associate to the mentalistic vocabulary   
  -There is only behavior, and if we want to fight dualism we need to change our way of speaking. We use the wrong words to describe some processes and we have to translate our mental states’ sentences
* All sentences about mental states can (and shall) be translated into sentences that describe behaviors   
   -The only way to describe scientifically is to turn the mind into something that can be described quantitatively (since we cannot access to that window of human beings).

Functionalism vs Behaviorism (part 2)

* Functionalism objects that different modifications can be related to the same behavior

*The mutant possibility* (Functionalism’s response)

* mental states —> behavior
* A and B sensations and output differ but the stimuli are always the same.

**Functionalism vs Identity theory**

The same argument can be used against the identity theory (which implies every mental state can be reduced to a physical state). This would mean that a mental state can be realized by different physical states. \*Pro A.I.

* Functionalism is not a form of materialism, physical state is not so important, what matters is what the mental states do and not their status.

**Computation Functionalism**

“Mental states and events (pains, belief, desires, thoughts and so forth) are computational states of the brain, and so are defined in terms of “computational parameters plus relations to biologically characterized inputs and outputs”

* Minds = Turing Machines
* Each machine that passes the Turing test is to be considered a thinking machine because from certain inputs (questions) the machine manages to give the correct output (answers)

Turing’s Imitation Game

* Can a machine convince and interrogator to be a human being and not a machine? If it passes the test then we can say this machine actually THINKS
* Some machines passed the test, the first one was ELIZA (psychological program)

To be conscious” —> To be a human being

To have a mind —> to be able to transform inputs into outputs (system of elaboration of data = mind)

To think —> To manipulate symbols (for Turing)

**John Searle’ s Objection: “The Chinese Room”**

\*He refused any computational theory of mind, he could not accept that a machine could be defined as a thinking thing.

* I need to convince a Chinese speaker that I do speak, read and write Chinese too. I am given a input in Chinese of course, and by following an English rule ledger, I should be able to give the right answer in Chinese. Remember that I do not know Chinese and the Rules are only used for a conversion of the symbols.
* If we think that thinking is just manipulating symbols, without any understanding of what we are manipulating, this is WRONG. It is not just the syntactical organization of symbols but it is also understanding the meaning. WE CANNOT REDUCE THINKING TO THIS.
* When we think, we understand/ we are conscious and a machine cannot really think. A machine is only able to manipulate symbols but it does not understand what they are.

**Daniel Dennett**

* Materialist. According to materialism, “there is only one sort of stuff, namely matter (the physical stuff of physics, chemistry, and physiology) and the mind is somehow nothing but a physical phenomenon. In short the mind is the brain”  
    - Criticizes Searle’ s position: We are manipulating things even when we use stuff we think that is in our power
* According to Dennett, some materialists do the same error as Descartes: they postulate a “Cartesian Theatre”, i.e they believe that consciousness is real, even if they do not think that is different from a physical process. - Even if they deny the mind as something else they make a mistake, they think there is a center for consciousness like for Descartes. They postulate there is an homunculus which is a being that manipulates processes and they are wrong [Dennett’s position]
* According to Dennett our consciousness is not a reality. It is only the interface between our brain, its processes, and the world. It is like the screen of a smartphone (Dennett’s metaphor)

Dennett’s Multiple Drafts Theory of Consciousness (vs Cartesian Theatre)

* Our mind is the result of multiple processes we are not conscious of. There is no consciousness, there is only a fight for our behavior to emerge. Lot of processes take place, but only some take the lead. Our consciousness is the result of a competition between internal processes and is not the manifestation of a single self.
* Our mind is the theatre of lot of thinking we do not even know and still we are convinced to be the most authoritative.
* Our consciousness is an illusion because like when in the video Dennett states we swear to see more details than the ones that actually composes the images we see and science demonstrates this.

**Summary of the Third Theme**

1. The main positions on the subjects are nowadays materialism (physicalism), functionalism and property dualism
2. Neither functionalism nor property dualism are ontological forms of dualism, they do not believe in two kinds of reality
3. As well as ontological dualism (Cartesian Dualism), functionalism and property dualism deny that mental states can be reduced to physical states. Mind is non-reducible to matter
4. Functionalism (in general) is a doctrine according to which mental state (desires, beliefs, pain, pleasure…) are constituted by their functional role, they are individuated by their functional relations with mental inputs, outputs and other mental states.
5. Functionalism answers both to “hard” materialism (esp. Identity Theory, mental states are physical states) and to behaviorism (the doctrine according to which mental states are ultimately dispositions to act).
6. According to functionalism (esp. Computational Functionalism) our mind is like the software of a computer. The mind is a very complex Turing machine: it performs operations, from inputs to outputs
7. Searle’s objection is that to manipulate symbols in this way is not equal to thinking, because thinking requires comprehension of the symbol’s meaning. (Chinese room example)

Dennet replies that neuroscience has shown that most of our intelligent operations are not conscious, which means consciousness is an illusion   
 \*Identity theory —> A (mental state) = Ap (Physical State)   
Eliminativist Theory: just because mental states are reducible to physical states we can eliminate the mind, there is no need to nominate it.   
Hard Behaviorism: there is nothing like mental states, there are only behaviors. [DENY EXISTENCE]   
Soft Behaviorism: There are mental states but what we can describe is the behavior and not the mental states themselves (which are not important for our theory) [DENY KNOWLEDGE\*