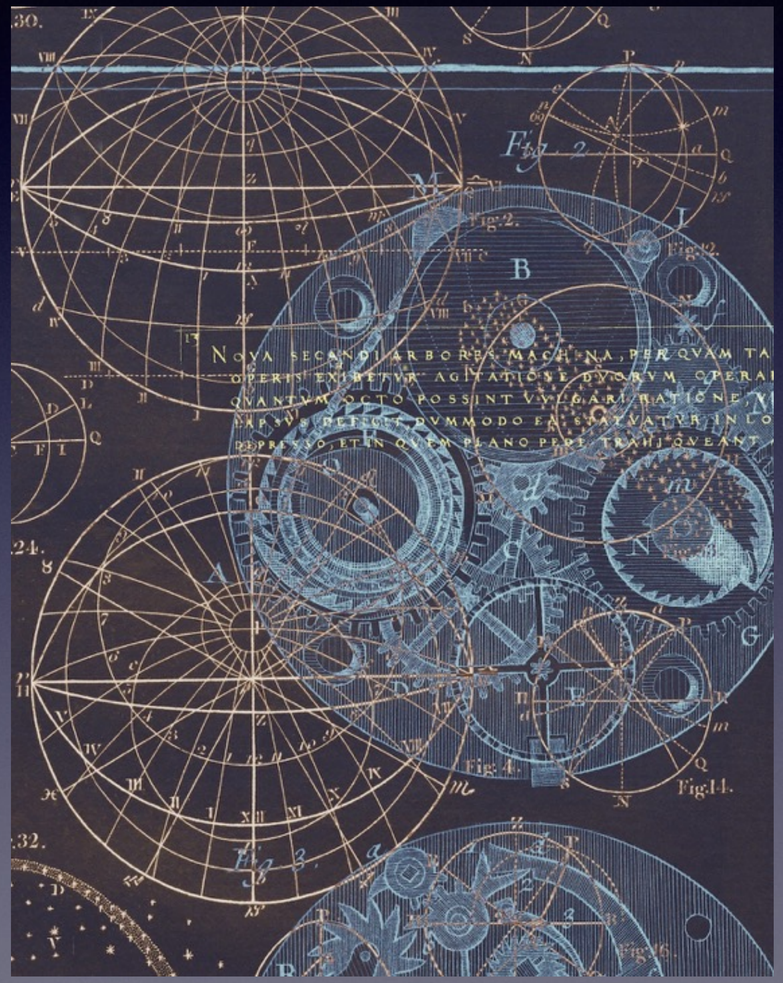
Scientific Philosophy

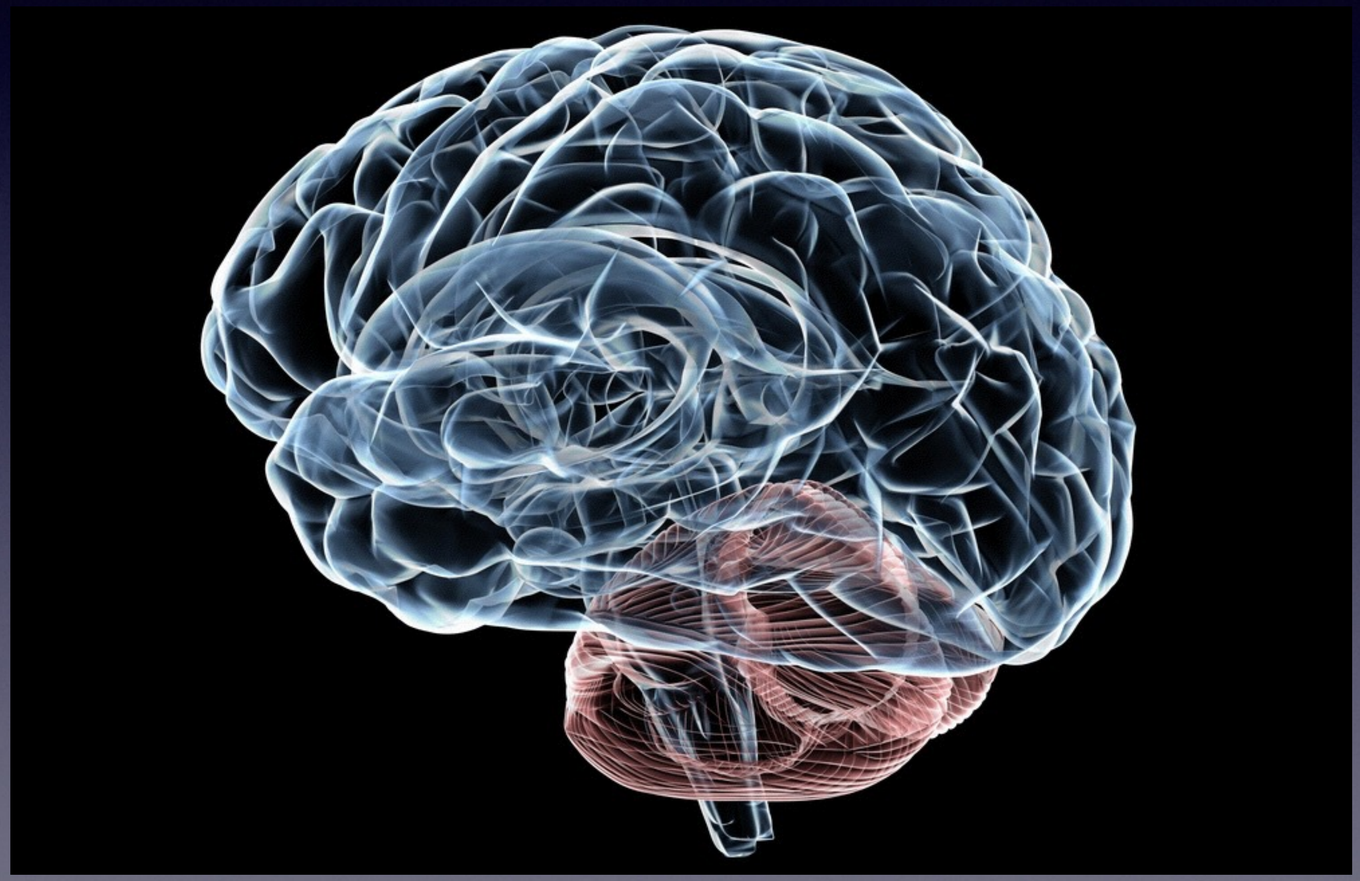


Gustavo E. Romero

IAR-CONICET/UNLP, Argentina

FCAyG, UNLP 2016

Philosophy of mind



- The mind-body problem is the problem of the nature of the mental functions of human beings and their relation to the human brain. Functions such as thinking, feeling, memorising, remembering, creating, imagining, etc.

- Philosophy of mind deals with questions such as What is mind? What is the self? What is the consciousness? Is there free will? Do we survive to our physical destruction? Are there bodiless minds?… and many more

- There are currently three main conceptions of the mind: psychoneural dualism, computerism, and the psychoneural identity thesis.

Phychoneural dualism

Psychoneural dualism is the ancient opinion that matter and mind are distinct entities or substances; that the one can exist without the other; and that they may interact, but that neither can help explain the other.

Dualism has been defended by famous philosophers, such as Plato, Descartes, and Popper, as well by a few eminent neuroscientists, among them Jackson, Sherrington, Penfield, Sperry, and Eccles; and it is a component of all religions and primitive cosmologies, as well as of some variations of psychoanalysis.

An argument for dualism

1. I have direct knowledge of my mental states.
2. I do not have direct knowledge of my brain states.

Therefore, by Leibniz's law, my mental states are not identical with my brain states.

This argument is fallacious, because having or lacking direct knowledge is not a property of the items in question, namely mental states and brain states. Indeed, the 'property' ascribed in premise (1), and withheld in premise (2), consists only in the subject item's being recognized, perceived, or known as something-or-other.

But such apprehension is not a property of the item itself.

Against dualism

1. ***Dualism is conceptually fuzzy.*** Indeed, the very expression "mental state" is at best shorthand, because every state is a state of some concrete (material) thing at a given time.
2. ***Dualism is experimentally irrefutable*** since one cannot manipulate a nonmaterial thing.
3. ***Dualism considers only the adult mind***.
4. ***Dualism violates physics***, in particular the law of conservation of energy.

Overall, dualism is ruled out by the overwhelming evidence for the physical nature of all mental events, actually it happens that “mental events” are nothing else that a subset of the events occurring in the brain.

Physchoneural identity thesis

For every mental process M, there is a process N in a brain system, such that M=N. For instance, seeing is the specific function of the visual system; feeling fear, a specific function of the system centered in the amygdala; deliberating and making decisions are specific functions of the prefrontal cortex, and so on.

A ***function*** is understood as a process in a concrete thing, such as the circulation of blood in the cardiovascular system, and the formation of a decision in the prefrontal cortex.

A ***specific function*** of a system S is one that only S can perform. For instance, the brain performs very many functions, but only the brain can think.

DEFINITION. Let *b* be an animal endowed with a plastic neural system *P*. Then

(i) *b* undergoes a ***mental process*** (or performs a ***mental function***) during the time interval *t*, iff *P* has a subsystem *S* such that *S* is engaged in a specific process during *t*, and (ii) every state (or stage) in a mental process of *b* is a brain state of *b*.

Mind

DEFINITION. Let *P* be the plastic (uncommitted) neural super-system of an animal *b* of species *K*. Then

(i) the mind of *b* during the period *t* is the union of all the mental processes (functions) that components of *P* engage in during *t.*

(ii) the *K*-mind, or mind of species *K*, during period *t*, is the union of the minds of its members during *t*:

Since the members of the set called 'mind' are brain functions (processes), it makes no sense to say that the brain is the physical "basis" of the mind. And since the human mind is nothing but the union of all the individual human minds, it makes no sense to speak of the collective mind of mankind as if it were an entity or even a functional system. On the other hand the mind of an individual animal does have functional unity: it is a functional system.

- The mind is not a thing.
- The mind does not exist independently of the brain or survives its destruction.
- Mental functions (processes) cannot be directly transferred (i.e. without any physical channels) from one brain to another.
- All and only animals endowed with plastic neural systems are capable of being in mental states (or undergoing mental processes).
- All mental disorders are neural disorders.

Consciousness

DEFINITION. If *b* is an animal,
(i) *b* is ***aware*** of (or notices) stimulus *x* (internal or external) iff *b* feels or perceives *x* - otherwise *b* is unaware of *x*;
(ii) *b* is ***conscious*** of brain process *x* in *b* iff *b* thinks of *x* - otherwise *b* is unconscious of *x*.

Consciousness

DEFINITION. The ***consciousness*** of an animal *b* is the set of all the states of the central nervous system (CNS) of *b* in which *b* is conscious of some CNS process or other in *b*.

Consciousness of brain event *x* is direct knowledge of *x*.

Consciousness, then, is not an entity but a set of states of a highly evolved CNS. Therefore to speak of 'states of consciousness' is sheer reification:

There are only conscious (and unconscious) states of the brain.

It is mistaken to speak of the Unconscious (or the Subconscious) as an entity, in particular one capable of influencing Consciousness (another supposed entity). There are only brain events, some conscious and the others unconscious, and because they are concrete events they can influence others. What holds for consciousness and unconsciousness holds also for Freud's Id and Superego. There can be no mental entities within mental entities, because mental entities are nonentities.

Person and self

DEFINITION. If *b* is an animal endowed with a plastic neural system capable of mentation (i.e. with a non-empty mind), then

(i) the personality of *b* is the functional system composed of all the motor and mental functions of *b*;
(ii) a person is an animal endowed with a personality.

Notice that there are nonhuman persons.

Person and self

DEFINITION. An animal
(i) has (or is in a state of) ***self-awareness*** iff it is aware of itself (i.e. of events occurring in itself) as different from all other entities;
(ii) has (or is in a state of) ***self-consciousness*** iff it is conscious of some of its own past conscious states;
(iii) has a ***self*** at a given time iff it is self-aware or self-conscious at that time.

The young child is self-aware but not self-conscious. Self-consciousness is generally believed to appear at about seven years of age

Free will

DEFINITION. An animal acts of its own ***free will*** iff
(i) its action is voluntary and
(ii) it has free choice of its goal(s) - i.e. is under no programmed or external compulsion to attain the chosen goal.

The will is not a faculty of an immaterial mind, but a capacity of highly evolved CNSs, namely a control of behavior by the brain processes.

- Free will is compatible with determinism.
- Free will requires causality. Otherwise, an animal endowed with it could not perform its volitions.
- Voluntary acts can be free or compelled.
- All animals capable of being in conscious states are able to perform free voluntary acts.

Computerism or computationalism

Computationalism comes in two varieties: ***materialist*** and ***idealist***. The former asserts that brains are computers. By contrast, idealist computationalism holds that the mind is a collection of computer programs, and is detachable from the anatomical “hardware”.

- The hardware-software distinction does not apply to people, because mental processes cannot be detached from the brain where they happen, except by abstraction.

- Only routine computations proper are algorithmic. All other mental processes, from feeling love, fear or hatred to guessing, inventing and criticizing, are nonalgorithmic.

- The claim that computers can do mathematics is equally mistaken: They only process physical (electromagnetic) correlates of mathematical concepts.

Summing up: Mental processes are brain processes. The brain processes are processes that occur in the brain and result in the specific functions of it. The ***mind*** is the set of all mental processes. ***Consciousness*** is always consciousness of something. It the objects of consciousness are mental process we say that the individual is ***self-conscious*** (at least of those processes). An individual has ***free will*** if he or she acts according to some volitions and he/she is not constrained to do so.