

# **Functionalism**

**Functionalism is a theory that explains mental phenomena in terms of the internal input and the observable output.**

- **Against dualism, the functionalist holds that the mind is not something that exists apart from the physical.**
- **Against materialism, the functionalist denies that mental states are identical with physical states.**

- **According to functionalism, there are three different kinds of causal relationship for mental state's causal role.**
- **First, there is the input condition that a subject's environment states can cause that subject to have a certain type of mental states. For example, injury to one's leg causes him/her to feel pain.**

➤ **Secondly, there is the output condition that a certain type of mental state can interact causally with other mental states of the same subject, e.g. feeling pain in his/her leg causes him/her to believe that the leg has been injured.**

**Thirdly, there is the internal role condition that there are characteristic ways in which a certain type of mental state can give rise causally to the bodily behaviour of its subject. For example, the subject believes that his/her leg has been injured and he/she has a desire to relieve the consequent pain and cause the leg to withdraw from harm's way.**

**For functionalism, mental states are characterized as ‘software’ states of a computer like in terms of their relations to the computer’s ‘inputs’ and ‘outputs.’**

H. Putnam, ‘The Nature of Mental States’, in *The Philosophy of Mind: Classical problems/Contemporary Issues*, (eds.) B. Beakley and P. Ludlow, p. 355.

The term 'hardware' refers to the physical computer itself and its peripheral devices, such as the keyboard for input, video screens and printers for outputs, and external or 'passive' memory tapes/disks/drums for both. It contrasts with the term 'software', which denotes a sequence of instructions that tell the hardware what to do.

Paul M. Churchland, *Matter and Consciousness*, p.101.

**According to functionalism, the biological function of the heart is to circulate blood through the body and thereby keeping the body oxygenated and nourished. The biological function of the brain is to gather information from the body's environment and process that information in accordance with certain 'programs' that have been 'installed' in it either by genetic evolution or else through learning processes.**

## Contemporary Issues in **Philosophy of Mind & Cognition**

**“... while having a given total realization of a functional property is sufficient for having that property, it is not necessary for it—that same functional property could be instantiated in virtue of the instantiation of some quite different total realization of it.”**

*Sydney Shoemaker, Identity, Cause, and Mind: Philosophical Essays, p. 265.*

**However, Block and Fodor have argued that the same physical state can realize different functional properties at different times, or in different circumstances, or in different creatures.**

**According Dennett, “of course, we are machines, we are just very, very sophisticated machines made of organized molecules instead of metal and silicon, and we are conscious, so there can be conscious machines – us.”**

**Dennett's functional analysis of consciousness is divided into two part:**

- (i) The sub-personal view of consciousness**
- (ii) The multiple draft-model of consciousness.**

**The sub-personal model explains consciousness and other mental activities through the help of neurological states and processes of the organism, whereas the multiple-draft-model discusses how an artificial system behaves intelligently.**

## **The Varieties of Functionalism**

**According to the computer functionalism, which is artificial intelligence or strong AI, the brain is a computer, and the mind is a computer program implemented in the brain. Mental states are just program states of the brain.**

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According to strong functionalism, our concept of a particular mental state type has a state whose tokens have a strictly defined causal-functional role or ultimately sensory input and behavioral output. For every psychologically distinct type of mental state M, there is a distinct corresponding functional role R.

In case of moderate functionalism, for every psychologically distinct type of mental state M, there is some functional role R, which can be assigned to M. In this case, which functional role corresponds to which type of mental state has to be determined by empirical investigation.

Michael Lockwood, *Mind, Brain, and the Quantum*, p. 29.

**A common functionalist claim is that the same mental state can physically be realized in a variety of ways. That is, for every mental state M, there are different ways of realizing it. What matters is the functional organization of the state and not the stuff out of which it is made. This is called multiple realizability theories.**

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In his essay “Mad Pain and Martian Pain”, Lewis discusses two kinds of beings, which experience pain differently than normal humans. In the case of mad pain, the subject experiences pain when doing moderate exercise in an empty stomach; further, it improves his concentration for mathematical reasoning. On the other hand, Martian pain takes place in a Martian organism constructed of hydrolic hardware rather than neurons. Here the point is that pain is associated only contingently with either its causes (as in mad pain) or its physical realization (as in Martian pain). We cannot specify *a priori* its causal role or physical realization.

David Lewis, *Philosophical Papers*, Volume 1, Oxford University Press, Oxford, 1983, p. 122.

**According to Ned Block, there are three kinds of functionalism:**

- (i) The first is simple decompositional functionalism, which refers to a research programme that relies on the decomposition of a system into its components, and then the whole system is explained in terms of these functional parts.**
- (ii) Secondly, computation-representation functionalism that describes mind as a computer (computer-as-mind analogy).**

**(iii) The metaphysical functionalism is a theory of mind that hypothesizes that mental states simply are functional states. The metaphysical functionalist claims that mental states are functional states because they have the causal relations between inputs, outputs and other mental (i.e. functional) states of the system, as in the Turing machine.**

Ned Block, 'Introduction: What is Functionalism?' *Readings in Philosophy of Psychology*, (ed.) N. Block, p.171.

**The Machine functionalism describes human brains in three levels:**

- **The first two are scientific levels such as biological, (neurophysical) and the machine-program or computational.**
- **Third is the common sense level of folk-psychology.**

# Contemporary Issues in **Philosophy of Mind & Cognition**

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- The Cartesian way of understanding of the concept of intelligence is anti-physicalist and anti-behaviourist and hence is anti-computational.
- The human mind is beyond the sphere of computability, because the human mind has innate ideas, which are embedded as the innate dispositions of the human mind.
- These ideas are *a priori* in the human mind and are the basic in-born

- **Following Descartes, Chomsky established that language too is an innate faculty of the human species.**
- **Language becomes the essence that defines what it is to be human.**
- **Language is purely a syntactic system, according to Chomsky, and it therefore has a logical form which is universal and innate world.**

- **Language must also have an essence; something that makes language what it is and inheres in all languages. That essence is called ‘universal grammar’.**
- **Language does not arise from anything bodily. Studying the brain and body can give us no additional insight into language.**

## Contemporary Issues in **Philosophy of Mind & Cognition**

- Like Chomsky, Quine also affirms that there can be no philosophical study of mind outside psychology: progress in philosophical understanding of the mind is inseparable from progress in psychology.
- Quine opposes the Cartesian dualism and therefore arrives at a behaviourist and functionalist conception of mind.
- He reduces the mental states like beliefs and other propositional attitudes to functional states.
- If both Chomsky and Quine are right about the nature of mind, then Descartes's view of

- In the *third meditation*, Descartes gives an extensive account of ideas.
- He says, “thus when I will, or am afraid, or affirm, or deny, there is always a particular thing which I take as the subject of my thought, but my thought includes something more than the likeness of that thing. Some thoughts in this category are called volitions or emotions, which others are called judgments.”

- **The ideas, for Descartes' are thus representational and intentional in character.**
- **Descartes, unlike Hobbes and Gassendi, is not a naturalist and keeps the thought content free from naturalization to which Hobbes and Gassendi are committed. For them, thoughts are mechanical processes in the brain.**

## Contemporary Issues in **Philosophy of Mind & Cognition**

- What separates Descartes' dualism from contemporary functionalism and identity theories is not so much his distinction between an immaterial mind and extended material body as his notion of the human being as a unity of mind and body, with the properties not reducible to either mind or body, but dependent precisely on their 'substantial' union.
- Descartes holds that thinking cannot be explained mechanically. His argument that brutes cannot think is equivalent to an argument that machines cannot think.

- **Descartes is drawing attention here is firstly, no machine could have the capacity to use linguistic and other signs to express thoughts and to give appropriate responses to meaningful speech, and secondly, machine could not have the capacity to act intelligently in all sorts of situation.**
- **The kind of automatic, rule governed computation or symbol processing that a Turing machine instantiates and that can be performed by electronic computers would not count as thinking in Descartes sense: nor would the mechanical operations of a computer or robot, no matter how ingenious or intelligent, count as rational behaviour as**

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- Pradhan clarifies that Descartes is not a reductionist as he feels that mind cannot be reduced to anything else and it must have an autonomous existence alongside the existence of the material body.
- The kind of automatic, rule-governed computation or symbol processing that a Turing machine instantiates and that can be performed by electronic computers would not count as thinking from the Cartesian point of view.
- Because Cartesian thinking is neither reducible to a narrowly understood rational capacity nor to consciousness.
- He clearly mentioned that consciousness is a

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