Philosophers who study the nature of the mind and consciousness are interested in examining the nature of mental states: What is the nature of mind and mental states? What are mental states? They propose different and competing theories for understanding mental states such as pains. Each of these competing theories address themselves to such questions as “what is pain?” or at least to “what is there in common to all pains in virtue of which they are pains?” What do all pains—pains in humans, pains in canines, pains in octopuses, and pains in Martians—have in common in virtue of which they all fall under a single psychological kind, pain? Different philosophical theories (behaviorism, identity theory, etc.) offer different answers to these questions. One dominant theory proposed by philosophers is functionalism.

According to functionalism, a mental kind is a functional kind, or a causal-functional kind, since the function involved is to fill a certain causal role. An organism has the capacity to be in pain just in case it is equipped with a mechanism that detects damage to its tissues, regardless of exactly how this mechanism is physically configured. The concept of pain is defined in terms of its function, and the function involved is to serve as a causal intermediary between typical pain inputs (tissue damage, trauma, etc.) and typical pain outputs (winces, groans, escape behavior, etc.) Each type of mental state is a state consisting of a disposition to act in certain ways and to have certain mental states, given certain sensory inputs and certain mental states.

**Functionalism’s Basic Point:** what makes a pain a pain (and generally what makes any mental state the mental state it is) is its having a certain causal role.

Functionalism raises the issue of whether mental processes could be based on physical processes that are not brain processes. Functionalism recognizes the possibility that systems as diverse as human beings, calculating machines, and disembodied spirits all have mental states.

Consider, for example, an alien life form based on silicone rather than carbon. If pain = neurons X, Y, and Z firing and the alien has no such neurons we could not claim that the alien is experiencing pain according to the identity theory. This seems counter-intuitive. If the alien’s functional economy of internal states were indeed functionally isomorphic with our own internal economy then the alien would have pains, etc., despite the differences in the physical system that sustains or realizes those functional states.

Functionalists argue that there is no single type of physical state to which a given type of mental state must always correspond. There is no one-one correlation between our mental states and brain states. The functionalist rejects:

- Mental state = brain state
- Mental state = physical state

There are many different things with distinct physical properties that might have mental states. The point is that **matter doesn’t matter** according to the functionalist. It is function...
that is important. The functionalist characterizes things in terms of what they can do, how they work, what function they have, what effects they have. And the functionalist argues that there are certainly more ways than one for nature to put together a thinking, feeling, perceiving creature. An implication of functionalism is that, since the substance of a system is irrelevant, mental processes could be based upon a network of electronic signals in a properly designed complex of transistors and circuit boards. Androids could have mental states.

One characterization of functionalism that is probably vague enough to be accepted by most functionalists is: each type of mental state is a state consisting of a disposition to act in certain ways and to have certain mental states, given certain sensory inputs and certain mental states.

Some analogues for understanding functionalism

1. Clocks: Big Ben, a sundial, a wristwatch, etc. What physical properties do all clocks have in common by virtue of which they are clocks? So what makes something a clock? Is its physical constitution important or simply what it does, how it functions?
2. Calculators: there are hundreds of different brands. They come in assorted shapes and sizes. Some are made of mental, some plastic, some mixed. They vary widely in their wiring diagrams. But they all function to do arithmetic.
3. Engine: the concept of an engine is silent on the actual physical mechanism that realizes it—whether it uses gasoline or electricity or steam and, if it is a gasoline engine, whether it is a piston or rotary engine, how many cylinders it has, whether it uses a carburetor, of fuel injection, and so on. As long as a physical device is capable of performing a certain specific job, namely, that of transforming various forms of energy into mechanical force or motion, it counts as an engine. The concept of an engine is specified by a job description, not a description of mechanism that can execute the job.

The functionalist analysis of pain:

1. characteristically results from some bodily damage or trauma
2. causes distress, annoyance, and practical reasoning aimed at relief
3. causes wincing, groaning, etc.

What is common to all pains in virtue of which they are pains? The functionalist says the something in common is functional (rather than physical or behavioral). For example: A functionalist analysis of headache: a mental state that among other things causes a disposition for taking aspirin, causes a desire to rid oneself of the pain one is feeling, causes one to say certain things, is brought on by overwork, eyestrain, tension, etc.

The essential or defining feature of any type of mental state is the set of causal relations it bears to:

(1) environmental effects on the body
(2) other types of mental states
(3) bodily behavior

A functionalist/causal analysis of headache: a mental state that among other things causes a disposition for taking aspirin, causes a desire to rid oneself of the pain one is feeling, causes one to say certain things, is brought on by overwork, eyestrain, tension, etc.

In sum, functionalism has the following key characteristics:

- recognizes the existence of mental states
- recognizes mental causation: mental states can cause both other mental states and forms of behavior. Unlike behaviorism, mental states are interdefined. More than just outputs must be mentioned. Internal states are also involved.
- in characterizing a mental state, no particular stuff can form part of its characterization: functionalism is stuff-neutral, our mental life is autonomous (Putnam: “Mentality is a real and autonomous feature of our world.”). The psychology of a system depends not on the stuff it is made of (living cells, metal, or spiritual energy) but on how the stuff is put together.
- what is important for mentality is not the matter of which an organism is made, but the structure of the internal activities which that matter sustains
- denies that there is a one-to-one correspondence between the concepts of our common-sense mental taxonomy and brain states
- mental states are individuated functionally
- not reductionistic
- compatible with physicalism/materialism, dualism, mechanism
- draws on computation analogies: software/hardware : : mental life/physical brain. The brain may simply be an organic computer. The brain and its neurons are analogous to the computer and its circuits and the mind is an elaborate program running on the brain as a computer has an elaborate program directing its behavior.
- my identity is my functional structure

Thought experiment: DATA

Is Data a person? Does Data have mental states? Is he conscious? Or is Data simply a mindless walking piece of hardware? How would a functionalist answer these questions? Do you agree with the functionalist’s analysis of Data? Is Data’s origin relevant? Is Data’s physical make-up relevant?