

Functionalism

What has undeniably had a profound effect on recent work in philosophy of mind is the computer, which has been one of the inspirations for almost all of the modern materialist accounts of mind: But this is especially true of the theory of the mind called 'Functionalism', which, though already dividing itself up into various subspecies, has been something approaching an orthodoxy over the last ten years. Here the catch cry is not 'the mind is nothing but the brain' but 'the mind is to the brain as a computer's software is to its hardware'. In short, the mind is the brain's program.

If the mind is seen in this way, it is argued, then we will no longer have any temptation whatever to look for either correlations or identifications between mind and brain, and a fortiori any temptation to eliminate our mental vocabulary. For just as it makes no sense to correlate or identify a computer's software with its hardware, so it makes no real sense to correlate or identify mental descriptions with neurophysiological descriptions.

Our mental talk is program or functional talk about the brain, and so different from talk about the brain's neurophysiological construction and electrochemical reactions; mind talk and brain talk are two equally legitimate but different ways of talking about the human brain and central nervous system. Seeing our mental talk in this way shows how nonsensical is any suggestion that we could or should eliminate it. Just as a computer scientist could not get by without ever mentioning computer programs and programming, so a philosopher of mind or cognitive psychologist could not get by without talking about a human's mental life.

It is another matter, of course, and a subject of keen debate, as to whether or not we could get by without our ordinary 'folk' version of our mental cum functional talk about the brain (expressed in terms of 'belief', 'desire', 'want', 'wish', 'intend', and so on).

The name most associated with the early days of Functionalism, sometimes called Computer Functionalism, is that of the Harvard philosopher Hilary Putnam. The baldest statement of his early views appears in the introduction to volume two of his collected philosophical papers, *Mind, Language and Reality*:

The theory for which I argue is a form of functionalism – not functionalism as a doctrine about the meanings of psychological words, but functionalism as a synthetic hypothesis about the nature of mental states.

According to functionalism, the behaviour of, say, a computing machine is not explained by the physics and chemistry of the computing machine. It is explained by the machine's program: Of course, that program is realized in a particular physics and chemistry, and could, perhaps, be deduced from that physics and chemistry. But that does not make the program a physical or chemical property of the machine: it is an abstract property of the machine. Similarly, I believe that the psychological properties of human beings are not physical and chemical properties of human beings, although they may be realized by physical and chemical properties of human beings."

A bonus resulting from this way of explaining the human mind is that it returns to psychology the status of being an autonomous science by blocking the gradual reduction of psychology to neurophysiology and eventually physics. Just as it makes no sense to eliminate mention of software' for computers and to deal entirely in terms of their electronic hardware; it equally makes no sense to eliminate discussion of the brain's functions and to investigate only its

electrochemistry.

Psychology cannot be reduced to physics or even to physiology, said the Functionalists, and in so saying brought about much of the current rapprochement between philosophy of mind and cognitive psychology. It also helped produce in psychology such eminent adherents of Functionalism as Ulric Neisser and Philip Johnson Laird.

One way of summing up Functionalism is to say that it has produced an exceedingly attractive and plausible answer to Ryle's question 'What is Le Penseur doing?'

For the answer given by the Functionalists is that, quite simply, Le Penseur is thinking or ruminating or deciding or believing or some combination of these things for our vocabulary of 'belief', 'desire', 'thought' applies literally to human brains. It does so because it is a literal account of their functioning, not of their micro electrochemical functioning but of the macro or 'writ large' tasks they perform in relation to perceptual input and behavioural output and other internal functional states.

On the other hand, I should not hide the fact that within Functionalism there has been, and continues to be, a hard fought debate about the status of our talk about beliefs, desires, thoughts; wants and their ilk. Sometimes this has been described as a debate about the nature of 'the propositional attitudes', for typically the full expression of a person's particular belief or desire would take the form, grammatically speaking, of a mental verb operating over (or attitudinizing over) a content expressed in propositional or 'that clause' form. Thus, typically, we might say, 'she believes that it will be a mild winter' or 'he hopes that the train will not be late'.

The result of the debate has been a bifurcation of Functionalism into what might be called a Centralist group and a Peripheralist group. The Centralist group, led by Jerry Fodor, would say that our ordinary belief desire vocabulary does not merely apply literally to humans at the macro level but that it also applies literally to humans at, if not a micro level, then at least at a sub macro level. For true descriptions of human cognitive functioning, in terms of our belief desire (or propositional attitude) vocabulary, are true descriptions of the way human brains actually operate.

Human brains are like digital computers insofar as they are 'semantic engines'. That is, human brains operate by representing incoming perceptual information in a language of the brain ('the language of thought') in propositional form and then operating over it in much the way that our propositional attitude vocabulary says it does. As Fodor said in a fit of combative hyperbole, any attempt on the part of psychology or philosophy of mind to give up the firm basis of psychological explanation in our common sense belief desire accounts would be 'beyond comparison, the greatest intellectual catastrophe in the history of our species'.

The Peripheralist group, led by Daniel Dennett, would say that our ordinary belief desire vocabulary does not produce a vehicle for literal description of how the human brain functions. It does not carve nature at its neurophysiological joints. How could it, since it was generated aeons ago by our ancestors who wore woad or nothing at all. When they viewed humans from the outside or periphery, our ancestors concocted a Functionalist story about what goes on inside human heads. This way of talking may now be indispensable in our quotidian commerce, but it cannot be literally true of how human brains function, for neither our ancestors nor most of us have any knowledge of neurophysiology. Indeed, on bad days neurophysiologists are prone to muttering that they

have no knowledge of how the human brain really works.

Talk about beliefs and desires, and how desires might stem from beliefs or vice versa, and our talk about propositional attitudes in general, have much the same status as our talk about the equator and lines of longitude and latitude; namely, we have found it useful to have invented them and we may now have to admit that they have become indispensable

Modern Philosophy of Mind – William Lyons