Defining Mind-Brain Token Identity

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Abstract. This paper disputes a common definition of token identity theory. It also observes that within the philosophical literature there are two significantly different definitions of token identity theory that are commonly used.

In this paper, I present two versions of the theory that the mind is identical to the brain. These two versions are type identity theory and token identity theory. After presenting them, I point out that my formulation of token identity theory differs from a formulation that appears in many places in the philosophical literature. The aim of this paper is then pursued: to reveal a significant inadequacy in this other formulation.

According to type identity theory, each type of mental event is identical to some type of event in a brain. The example that is often used when discussing this theory is that pain is identical to C-fibres firing. I shall work with this example, as if it involves the relevant kind of identity, though these fibres, on my understanding, are actually outside the brain (Puccetti 1977: 303). Supposing that there is this identity relationship, then whenever a living being has pain, C-fibres fire within them and an instance of their pain is identical to this neural event. It seems possible, though, that pain in one creature is C-fibres firing, while pain in another creature is some other type of brain event, especially because there are non-human creatures that feel pain. Similar possibilities may be proposed if we identify pain with another type of brain event instead. Even if pain in some beings is that type, pain in other beings might not be. This presents a challenge to type identity theory. We cannot say that the mental event of pain is simply identical to a type of brain event. The same challenge can be presented for other types of mental event.

Token identity theory does not face this challenge. Token identity theory is compatible with saying that pain in one creature is C-fibres firing, while pain in another creature is some other type of brain event. It is also compatible with saying that pain in one person on one day is C-fibres firing, while for the very same person on a later day it is some other type of brain event. What needs to be true for this theory is that if you take a certain instance of pain in a certain creature at a certain time, this instance is also an instance of some type of brain event. Whether an instance of pain is an instance of the same type of brain event on different occasions, or in different creatures, does not matter for token identity theory. What has been said about pain in relation to this theory also applies to other mental events. A natural way of explaining token identity theory is as follows: if one takes an instance, or token, of a given type of mental event, this token is identical to a token of some type of brain event.

The previous two paragraphs may sound like a repetition of what is said in most, if not all, introductions to mind-brain identity theory. However, one often encounters a different definition of token identity theory in attempts to introduce it. Here is an example of this different definition, taken from *The Blackwell Dictionary of Western Philosophy*:

> **token-token identity theory**
>
> PHILOSOPHY OF MIND One version of the identity theory of mind or central state materialism, according to which there is token-token identity between mental and physical states or events. Each token instance of a mental event is as a matter of fact the same as some token instance of a physical event. (2004: 692)

The definition in this quotation is in the second sentence. Unlike the explanation which I provided earlier, it does not say that according to token identity theory, the relationship of identity has to be between a token of a mental event and a token of some brain event. It says

that the identity has to be between a token of a mental event and a token of some physical event. We can characterize this definition as broader, because the category of physical events encompasses more than the category of brain events. A number of authors adopt the broader definition in the philosophy of mind literature. It can be found in the 'Identity Theory' entry of the *Internet Encyclopedia of Philosophy* (Schneider 2009). In his textbook on the philosophy of mind, Jaegwon Kim defines token physicalism in the same way and then says that this view is also called token identity theory (2006: 102). Sean Crawford uses the broader definition in his introductory text:

> There is a weaker form of the identity theory, called the 'token identity theory', which says merely that each token mental state or event is identical with a token physical state or event. (2005: 74)

I have also encountered this definition, implicitly, in lecture notes (Smith 2009). My aim in this paper is to contest the acceptability of the broader definition.

The objection I shall make has probably occurred to readers already. If we work with the broader definition, then there are some theories which we have to say involve a commitment to token identity theory when actually they involve no commitment to the view that the mind is the brain, on any elaboration of this view. One example of such a theory is a variety of behaviourism, which I shall refer to as token behaviourism. The question of whether any notable behaviourists were token behaviourists will be left aside here, since what matters for this paper is that it is a position that one might, rightly or wrongly, adopt.

Token behaviourism says that each token of a type of mental event is identical to some token of external behaviour. To illustrate this theory: if you wince when you are in pain, a token behaviourist would presumably take the wincing itself to be the pain, rather than something inner which causes you to wince. A mental event is by definition an event and behaviour is conceived by token behaviourism as something physical. Each token of a type of

mental event is therefore an event that is physical, on this theory. Each is a physical event. Token behaviourism thus entails token identity theory, on the broader definition. The problem for this broader definition is that token behaviourism does not actually entail any version of mind-brain identity theory, for it is not committed to any elaboration of the idea that the mind is the brain.

It would make sense to use the term 'token identity theory' for the view captured by the broader definition if the word 'identity' is meant to indicate mental-physical identity. But the texts I have cited are either using 'identity' to indicate mind-brain identity or to indicate something very similar, which allows for the same objection to be made. For example, the title of the chapter in which Kim relies on the broader definition is 'Mind as the Brain: The Psychoneural Identity Theory.' The section of the chapter which presents this definition opens with the following sentence:

> The identity theory standardly talks of "events," saying, as we have seen, that mental events are physical events in the brain. (2006: 101)

Later in the section we are told that the following is a standard statement of identity theory:

> Every mental event is a physical event. (2006: 102)

This statement, Kim says, can be interpreted as token identity theory (2006: 102). By 'token identity theory,' he clearly aims to refer to a version of the theory that mental events are events in the brain. He does not register that there could be a philosophical behaviourist who endorses the statement above on the interpretation he associates with token identity theory.

It may be protested that the issue I have raised is merely terminological. Imagine that someone says, "However strange it might seem, what philosophers mean by the term 'token identity theory' is the view that for each token of a type of mental event, there is some physical occurrence to which this token is identical. We are dealing with terminology that is potentially confusing, but nothing more." There are at least two objections to this response.

The first objection is that it overlooks that a number of philosophers are not just using a potentially misleading term for the view they have in mind. They are also misconceiving the kind of view it is. When these philosophers write of 'token identity theory,' apart from using this label, they often say or imply that the view being referred to is genuinely a version of the mind-brain identity theory. This is a misconception if the view being referred to is the one captured by the broader definition. For one can consistently commit oneself to this view without believing that the mind is identical to the brain or holding any very similar belief. Thus we are dealing with more than a terminological worry. We are dealing with a misconception about what kind of view this is.

The second objection is that it is doubtful that all, or almost all, philosophers who use the term 'token identity theory' are referring to the view captured by the broader definition. Sometimes token identity theory is explained in the way that I earlier characterized as natural. This explanation is offered in introductory works by Peter Smith and O. R. Jones (1986: 185) and by William Lyons (2001: 108). It also appears in many articles and is the one used in the *Stanford Encyclopedia of Philosophy*:

> Similarly a particular pain (or more exactly a having a pain) according to the token identity theory is identical to a particular brain process. (Smart 2012)

The textual evidence available undermines the claim that philosophers in general are referring to the view captured by the broader definition when they write of token identity theory. It also reveals that there are two ways in which this term is commonly defined. Those who rely on one definition often present it as the standard one, without showing any awareness that there is another definition that is also frequently presented in this way. My aim in this paper has been to contest a widespread definition of token identity theory, but a subsidiary finding of the paper is that there is this divide within the philosophical literature.

Acknowledgement

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