

Non-reductive physicalism and supervenience

PHYSICALISM

Materialism is the view that there is only kind of substance, which is matter. In recent years, materialism has been supplanted by 'physicalism'. The most important reason for this is that physics has shown that 'matter' is too crude an identification of the most basic substance that exists, e.g. that matter can be changed into energy. As a first attempt, we could define physicalism as the view that everything that exists is physical, or depends upon something that is physical. 'Physical' means something that comes under the laws and investigations of physics, and whose essential properties are identified and described by physics.

But we should be more precise about this. Physicalism claims that what is physical is metaphysically fundamental. It is not enough that the only *substance* is physical – the fundamental *nature* of the universe is physical, and this covers events and properties as well. So physicalism should say:

1. the properties identified by physics form the fundamental nature of the universe;
2. physical laws govern all objects and events in space-time;
3. every physical event has a physical cause that brings it about in accordance with the laws of physics. (This is known as the 'completeness of physics' or 'causal closure'.)

Physicalism does not have to claim that everything can be *explained* by appealing to physical properties and laws. 'Explanation' brings in all sorts of different considerations, since it relates to how we make sense of things. Physicalism is a view not about explanation, but about properties, laws and causes.

While all physicalist theories of the mind agree that the mind is not a separate *substance*, they can disagree on whether it is right to say that mental events are physical events, or whether mental properties are physical properties. This is the question of 'reduction'. Not all physicalists are reductionists. Many non-reductionist physicalists argue that the relation between mental and physical properties is supervenience.

SUPERVENIENCE

We said that physicalism claims that everything that exists is physical, or depends upon something that is physical. So mental properties depend, in some way, upon physical properties. We can develop this idea of dependence into the idea of supervenience. The essence of supervenience is this: properties of type A supervene on properties of type B just in case any two things that are exactly alike in their B properties cannot have different A properties.

The relation of supervenience holds between properties. For example, a painting has various aesthetic properties, such as being elegant or balanced. It also has various physical properties, such as the distribution of paint on the canvas. The aesthetic properties supervene on the physical ones. We cannot change the painting's being elegant or balanced without changing the distribution of paint on the canvas. There can

be no change in aesthetic properties without a change in physical properties. And two paintings exactly alike in their physical properties (i.e. duplicates) will have the same aesthetic properties. The physical properties 'fix' the aesthetic ones. We should note, though that the notion of 'fixing' here is not causal. The physical properties of the painting don't cause its aesthetic properties. We might say that they realize or result in the aesthetic properties.

Many non-reductive physicalists argue that mental properties supervene on physical ones. There can be no change in an object's mental properties without a change in its physical properties, and two objects with identical physical properties would have identical mental properties. However, in contrast to the aesthetic case, it is harder to see how we can understand or explain the supervenience of mental properties on physical ones.

Functionalism provides one account. Mental properties are just functional properties, and functional properties are simply complex properties built up out of physical properties and their causal powers and relations. This explains why and how mental properties supervene on physical ones.

A stronger explanation would invoke laws that correlate mental and physical properties. Searle (see the handout 'Biological naturalism') suggests that the relation between consciousness and the physical properties of the brain is that of systemic properties to micro-level properties. In all other cases of such a relation, there are laws that connect the two properties. Searle accepts that we don't have the laws that would allow us to explain supervenience yet. However, Davidson (see the handout 'Anomalous monism') argues that there can be no laws connecting the mental and the physical. Davidson accepts supervenience, but he does not offer an explanation.

Many physicalists have argued that physicalism requires us to accept that there is an explanation of supervenience. If there isn't, then we don't understand how mental properties fit into a universe that is fundamentally physical. We might then start to think that mental properties are radically different from physical properties. And this will lead us to property dualism (see the handout 'property dualism'), which may challenge physicalism.