

David M. Armstrong (1926–)

FRANK JACKSON

David Armstrong's many major contributions are focused in traditional epistemology and metaphysics. He offers comprehensive accounts of what there is, its nature, and how we know about it. He is a "system builder." His work is informed by the conviction that philosophers must take very seriously the teachings of science. He is a realist: about mental states, about properties, about laws, and about singular causation. Indeed, on almost any philosophical topic, if there is a realist position available, Armstrong will occupy it. Also, he seeks what is now often called "the view from nowhere." He is opposed to the idea that there may be different, equally legitimate but, to one degree or another, incommensurate, views of how things are from one or another perspective. Or, as it is sometimes put, he denies that there are different kinds of being or of truth.

Materialism about the mind

Armstrong is probably best known for *A Materialist Theory of the Mind*. His theory is commonly known as central state materialism or as the causal theory of mind.

Armstrong started his philosophical life as a behaviorist but, partly as a result of the influence of J. J. C. (Jack) Smart, moved to the view that mental states are states of the central nervous system, and more especially the brain. Armstrong develops his central state version of the identity theory by first arguing that the concept of a mental state *M* is the concept of a state that plays a distinctive causal role that connects stimulus, behavioral response, and other mental states. Thus, to give the rough idea, pain is the state typically caused by bodily damage, and typically causing a desire that it itself cease and a behavioral response that tends to, or is believed to, minimize the damage. Obviously, an account of this kind is exactly what evolutionary considerations would suggest. In similar fashion, belief is a state induced by subjects' environments that tends to make them behave in ways that realize what they desire if what they believe is true. Armstrong sees two major advantages of this kind of view over behaviorism. First, it allows mental states to be causes of behavior. Secondly, by bringing in reference to other mental states, it allows for suitably complex accounts of the connections between mental states and behavior. It is notorious that there is no simple one-to-one matching of mental states and behavior. What you do when you think it is about to rain depends,

inter alia, on whether you want to stay dry, on where you think the umbrella is, on whether you think you are Gene Kelly, and on how cold you feel.

On the central state theory, to ask after the identity of a given mental state *M* is to ask what state plays the distinctive, causally intermediate role assigned by the concept of *M*. Armstrong argues that, for each mental state, it will turn out to be some state or other of the brain that plays the role in question. He concludes, therefore, that, as an empirical matter of fact, mental states are identical with brain states.

These identities will be contingent because which brain states play which roles is a contingent matter. Some have objected that there are no contingent identities: everything is necessarily identical to itself, and that what Armstrong (and Smart) should say is that the identities are a posteriori. In fact, they hold that the identities are both contingent and a posteriori, but the objection to the contingent identity part of their theory is a misunderstanding. All they mean is that sentences of the form “*M* is *B*” are contingent, in the same way that “Red is the color of bullfighters’ capes” clearly is.

A second misunderstanding is over Armstrong’s stance on the possibility that quite different states might play the causal role distinctive of pain in different species and, maybe, in different members of the one species. It is often objected that identity theorists are committed (implausibly) to pain being the same state in everything that experiences pain. But consider the following parallel. The most dangerous virus for dogs is different from the most dangerous virus for people, and the reason for this is that the kind that plays the relevant role in dogs differs from the kind that plays the relevant role in people. Nevertheless, we can, and do, *identify* the most dangerous virus for dogs and for people – or anyway the experts do it for us.

A more pressing question is whether Armstrong (and Smart) should have said that mental states are constituted by, rather than identical with, brain states. The relation between a table and the parts that make it up is one of constitution, not identity. Because the life histories of the table and its parts differ – for example, the parts typically come into existence somewhat earlier than the table – Leibniz’s Law means that the relation cannot be one of identity; it must be constitution. (A separate question is whether this relation of constitution can be analyzed in terms of identity between temporal parts of the table and temporal parts of various aggregations of parts.) Similarly, it may well be that Armstrong (and Smart) should, strictly, say that mental states are constituted by brain states, not that they are identical to them.

Armstrong’s central state view of mind is sometimes contrasted with the kind of functionalist theory of mind associated with the early Hilary Putnam (see PUTNAM). They both agree in giving functional roles a central role in the theory of mind. This is because Armstrong’s causal roles can equally be described as functional roles. The stimuli that Armstrong talks of are inputs, as functionalists say it, and the behavioral responses are outputs, as functionalists say it. There are two big differences, though. Armstrong thinks of the mental states as the occupants of the functional roles, as the states that are suitably interconnected to inputs, outputs, and other, internal mental states. Putnam thinks of them (or thought of them when he was a functionalist) as the functional roles themselves. And, secondly, the functional roles in Armstrong’s theory are those sometimes called “common sense.” Their inputs and outputs are described in terms familiar to us all: rain, umbrellas, movements that lead to beer inside the mouth,

etc. In Putnam's version of functionalism, though not in all versions of functionalism, the inputs and outputs are thought of as internal ones.

Perception, sensations, belief, knowledge

Armstrong's *Perception and the Physical World* is an argument for direct realism in perception. He argues that we are directly acquainted with independently existing physical objects in perception. The distinctive feature of his argument is the way it is founded on an analysis of perception and perceptual experience in terms of the acquisition of belief through the operation of one's sense organs. This makes good sense of the central biological function of perception, which is the acquisition of belief about what is going on around and inside one. An obvious question for Armstrong's account is raised by the fact that the very same belief, say, that it is raining outside, can be acquired in very different ways through very different perceptual experiences. You might, for instance, see that it is raining, be told that it is raining, read on a computer screen that it is raining, or hear that it is raining. Perhaps the most plausible way of approaching this problem is in terms of the distinctively different clusters of beliefs in each case. In none of these cases, does the belief that it is raining come "by itself"; rather, it comes as an integral part of a whole cluster of beliefs, and the clusters are different in, and distinctive of, each case.

In *Bodily Sensations*, Armstrong gives an account of somatic sensations in terms of perception of one's own body. A sensation is an experience of perceiving that one's body is in such and such a state, an experience which may or may not be veridical. For example, a feeling of warmth is the putative perception that a part of one's body is warm. In the case of certain sensations, the putative perception is accompanied by a characteristic attitude. Pain, for example, is the putative perception that there is something amiss with part of one's body, accompanied by an immediate dislike of this putative perception.

Armstrong's treatment of belief follows a suggestion of F. P. Ramsey's that belief is like a map by which we steer. Inside our heads is a master map that moves us through the world in such a way that what we desire is achieved to the extent that the map is correct, and individual beliefs are thought of as sub-maps of the master map. This approach to belief is now a standard alternative to the internal sentence theory of belief supported by language of thought theorists.

His account of knowledge is a reliabilist one. Knowledge necessarily involves true belief: if *S* knows that *P*, then *S* truly believes that *P*. But not all true belief is knowledge; the truth of a belief may be an accident, and how can getting it right by accident be *knowledge*? Armstrong's suggestion, roughly, is that *S*'s true belief that *P* is knowledge if it is a reliable sign that *P*. Here he differs from the tradition that requires that one's belief be justified in order to count as knowledge.

Time and action

Armstrong holds a temporal part, or stage, metaphysics. Identity over time is a matter of having parts or stages at the times in question. I was at the Melbourne Test when "Typhoon" Tyson took 7 for 27 because a certain person-stage with the right

connections to the person-stage writing these words was present at that test match. Armstrong's main contribution to the debate is one of the very first discussions of the famous rotating homogeneous cylinder/disk/sphere example. He argues that the example shows the *conceivability* of a conception of identity through time not framed in terms of temporal stages, but that, nevertheless, the temporal stage account of identity through time is in fact correct. What makes it true, on his view, that such an object is rotating are the dependencies between different stages.

Armstrong was also one of the first, with Brian O'Shaughnessy, to argue that if one acts, one must have tried to act, and that this is the essence of truth in the old volitional theory of action.

Universals, laws, causation, possibility, and states of affairs

Truth-makers play a crucial role in Armstrong's later philosophizing. The basic idea is that if some sentence or proposition is true, there must be something that makes it true; similarly, if some predicate applies to something, there must be something that makes it true that the predicate applies. You cannot say that the word "square" applies to *A*, and that that is *all* there is to say. There must be something about *A* that makes it true that the word applies to it, that *A* satisfies it. In Armstrong's hands, the truth-maker principle, as he calls it, is more than the widely accepted supervenience of truth and satisfaction on nature. Supervenience says that if a sentence is true in one situation and false in another, and if a predicate is satisfied by one thing but not by another, the situations and things must differ in nature. The truth-maker principle goes further. It says that there must be something that makes – necessarily makes – the true sentence true and the satisfied predicate satisfied.

Armstrong holds that what makes it true that predicates apply to particulars are the properties or universals that the particulars possess. In keeping with his realist leanings, these universals exist independently of the classifications that we find natural. They are in nature. Secondly, they are not to be reduced to sets, or to resemblances between particulars. Armstrong is not a nominalist. He argues, in particular, that nominalists cannot handle the famous "one over many" problem, the problem of what unifies things that share a property. Thirdly, there are no uninstantiated universals; every universal is possessed by at least one thing. In this sense, he is with Aristotle and not Plato. He regards the Platonic view that there are uninstantiated properties or universals as an unmotivated ontological extravagance. Fourthly, there is not a one–one relation between properties and predicates: one and the same universal or property may be the truth-maker for a number of different predicates. To illustrate: suppose that *U* is a universal and that "*A*" is a predicate that says that something is *U*, and "*B*" is some quite different predicate. Surely, "*A* or *B*" might be true of something which is *U* simply because it is *U*. We are not required to postulate an extra property just because "*A* or *B*" is a distinct predicate from "*A*." Also, there may be properties for which there is no predicate. Finally, which universals or properties there are is an a posteriori matter to be settled by total science. Philosophy tells us that there must be truth-makers for true predications, but what they are is ultimately a matter for science broadly conceived.

Armstrong argues strongly against Humean and neo-Humean accounts of laws. For him, no facts about regularities, however tricked up, can ever add up to lawfulness

proper. What then must be added to a regularity to get a law? His answer is that what distinguishes the universal statements of the form “Every F is G ” that express laws of nature – that are nomic or nomological – from those that express accidental regularities is that, roughly, the laws correspond to relations of nomic necessitation between universals. In its simplest version, the idea is that “Every F is a G ” is a law if and only if F ness necessitates G ness. But more detailed accounts would need to advert to his metaphysics of states of affairs, mentioned briefly below, and to his treatment of laws that do not fall obviously into the “Every F is G ” mold, derived laws, and laws that have no instances (for example, concerning motion in the absence of gravity).

This account of laws is, obviously, strongly anti-Humean. Armstrong’s account of causation is equally counter to the tradition that comes to us from Hume, and in three respects. First, Armstrong insists that causation is singular in that it is a non-relational property of a sequence (see ANSCOMBE). Secondly, he holds that the connection between causation and law is a posteriori. He denies, that is, that it is a priori that any singular causal sequence falls under some law. He does, though, allow that it may well be that some or all causal sequences are identical, as an a posteriori matter, with the instantiation of a law. Finally, he holds that we sometimes directly perceive singular causal connections. Here he is going against a widely held view, even among those who would not describe themselves as Humeans. Many who agree with him that causation is more than sequence suitably constrained think, nevertheless, that sequence is all we literally perceive. We do not see that X caused Y ; we infer it. Sometimes their argument for this view is that a non-causal sequence can seem as causal as can be, as Piaget’s famous experiments tell us. Armstrong rightly points out that this only shows that illusion is possible, and the possibility of illusion concerning a feature does not show that we do not literally perceive it when all goes well. However, there is a stronger argument. It is hard to identify the causal role that singular causation plays in its alleged perception. When I see that something is square, its squareness plays a role in inducing my perceptual experience. This seems crucial to its being correct to say that I perceive its squareness. But what role does singular causation play that might mirror the role squareness plays? All the causal work seems to be being done by the sequence *per se*.

Armstrong’s account of possibility is a combinatorial one, drawing on his realism about universals. We can think of how things are as a vast, complex arrangement of particulars and universals. The various possibilities can then be thought of as all the combinations and recombinations of these particulars and universals according to various rules for combining particulars and universals. Thus, to give the barest bones of the idea, suppose that there is in fact charge X at point y , and charge U at point v . What makes it possible that there be charge X at v , and charge U at y ? His answer is the fact that putting X with v , and putting U with y , does not violate the rules of combination.

In his most recent book, *A World of States of Affairs*, Armstrong argues that the best way to bring his ideas on universals, laws, truth-making, and possibility together is by adopting a metaphysics of states of affairs. For example, universals – the key to his account of laws – turn out to be types of states of affairs. In any case, for Armstrong, the world is not the aggregation of all the things there are. It is the aggregation of all the states of affairs there are, where states of affairs are things-having-properties. His

view is essentially the same as Wittgenstein's in the *Tractatus*, namely, that the world is the totality of facts, not of things.

Bibliography of works by Armstrong

- 1960: *Berkeley's Theory of Vision*, Melbourne: Melbourne University Press.
1961: *Perception and the Physical World*, London: Routledge and Kegan Paul.
1962: *Bodily Sensations*, London: Routledge and Kegan Paul.
1968: *A Materialist Theory of the Mind*, London: Routledge and Kegan Paul.
1973: *Belief, Truth and Knowledge*, Cambridge: Cambridge University Press.
1978: *Universals and Scientific Realism*, 2 vols., Cambridge: Cambridge University Press.
1983: *What is a Law of Nature?*, Cambridge: Cambridge University Press.
1984 (with Norman Malcolm): *Consciousness and Causality: A Debate on the Nature of Mind*, Oxford: Blackwell Publishers.
1989a: *A Combinatorial Theory of Possibility*, Cambridge: Cambridge University Press.
1989b: *Universals: An Opinionated Introduction*, Boulder, CO: Westview Press.
1997: *A World of States of Affairs*, Cambridge: Cambridge University Press.