

Introduction

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The philosophy of mind is one of the most exciting and innovative areas in philosophy at the current time. Necessarily, much of the work in the area is highly specialized, but as a consequence it is not widely available or accessible. By bringing together some of the leading figures in the field, we hope in this volume to fill what is often perceived both inside and outside philosophy to be a gap. Contributors have attempted in their papers to give an idea of their current concerns, to indicate the directions in which their work is taking them, and to suggest how it relates to other issues both in the philosophy of mind and in philosophy generally.

After a general review of work on the mind-body problem over the last 50 years, the collection focuses on various aspects of neural activity and embodiment, on mental simulation, on the first person, on consciousness (including a new approach to the topic), on intentionality, on perception, on the mind as generating norms, on its connection to the world outside, on free will and on action.

The papers in the volume are based on the lectures given in the Royal Institute of Philosophy's annual lecture

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series 1996–7. Thanks are due to all the contributors, and especially to Christopher Peacocke and Ted Honderich for their help in planning the series. I would also like to thank James Garvey for preparing the index, and for help with editing the volume.

The Mind–Body Problem after Fifty Years

JAEGWON KIM

I

It was about half a century ago that the mind–body problem, which like much else in serious metaphysics had been moribund for several decades, was resurrected as a mainstream philosophical problem. The first impetus came from Gilbert Ryle's *The Concept of Mind*, published in 1948, and Wittgenstein's well-known, if not well-understood, reflections on the nature of mentality and mental language, especially in his *Philosophical Investigations* which appeared in 1953. The primary concerns of Ryle and Wittgenstein, however, focused on the logic of mental discourse rather than the metaphysical issue of how our mentality is related to our bodily nature. In fact, Ryle and Wittgenstein would have regarded, each for different reasons, the metaphysical problem of the mind–body relation as arising out of deplorable linguistic confusions and not amenable to intelligible discussion. There was C. D. Broad's earlier and much neglected classic, *The Mind and Its Place in Nature*, which appeared in 1925, but this work, although robustly metaphysical, failed to

This paper derives in part from my 'The Mind-Body Problem: Taking Stock After 40 Years', forthcoming in *Philosophical Perspectives*, 1997.

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connect with, and shape, the mind–body debate in the second half of this century. It is fair to say that the mind–body problem as we know it today had its proximate origins in a trio of papers published in the late 1950s: U. T. Place’s ‘Is Consciousness a Brain Process?’¹ in 1956, and J. J. C. Smart’s ‘Sensations and Brain Processes’ and Herbert Feigl’s ‘The “Mental” and the “Physical”’, published in 1958 and 1959 respectively.² In these papers, Place, Smart and Feigl proposed an approach to the status of mind that has been variously called ‘the mind–body identity theory’, ‘central-state materialism’, ‘type physicalism’, and ‘the brain-state theory’. In particular, it was the papers by Smart and Feigl that had a major philosophical impact, launching the debate that has continued to this day.

¹ U. T. Place, ‘Is Consciousness a Brain Process?’, *British Journal of Psychology* 47/1 (1956), 44–50. There were even earlier modern statements of the identity approach: e.g. Samuel Alexander, *Space, Time, and Deity* (London: Macmillan, 1920), vol. II, p. 9, where he says, ‘The mental process and its neural process are one and the same existence, not two existences’; the psychologist Edwin G. Boring states, ‘If we were to find a perfect correlation between sensation *A* and neural process *a*, a precise correlation which we had reason to believe never failed, we should then identify *A* and *a* . . . it is scientifically more useful to consider that all psychological data are of the same kind and that consciousness is a physiological event’ (*The Physical Dimensions of Consciousness* (New York: Dover reprint, 1963), p. 14). Boring’s book was first published in 1933.

² J. J. C. Smart, ‘Sensations and Brain Processes’, *Philosophical Review* 68 (1959), 141–56. Herbert Feigl, ‘The “Mental” and the “Physical”’, in *Minnesota Studies in the Philosophy of Science*, vol. II, eds. Herbert Feigl, Grover Maxwell and Michael Scriven (Minneapolis: University of Minnesota Press, 1958).

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For those of us who came of age philosophically in the 1960s, the brain-state theory was our first encounter with the mind–body problem as a problem in systematic philosophy. We were impressed by its refreshing boldness, and it seemed in tune with the optimistic scientific temper of the times. Why can’t mentality turn out to be brain processes just as heat turned out to be molecular motion and light turned out to be electromagnetic waves? But the brain-state theory was surprisingly short-lived – its precipitous decline began only several years after its initial promulgation – and by the late sixties and early seventies it had been abandoned by almost all philosophers working in philosophy of mind and psychology. This was more than the fading away of a bold and promising philosophical theory: the demise of the brain-state theory gave a bad name to all forms of reductionism, turning the term ‘reductionist’ into a distinctly negative, often disdainful, epithet. In most academic and intellectual circles these days, calling someone a reductionist has become more than saying that he or she holds an incorrect view; it is a thinly disguised putdown that labels the targeted person as intellectually backward and simplistic.

It is clear in retrospect, though, that in spite of its brief life, the Smart–Feigl physicalism made one crucial contribution that has outlived its reign as a theory of the mind. What I have in mind is the fact that the theory helped set the basic parameters for the debates that were to follow – a set of broadly physicalist assumptions and aspirations that still guide and constrain our thinking today. One indication of this is the fact that when the brain-state theory collapsed philosophers didn’t lapse back into Cartesianism or other

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serious forms of dualism. Almost all the participants in the debate stayed within the physicalist framework, and even those who had a major hand in the demise of the Smart–Feigl materialism continued their allegiance to a physicalist worldview. And this fact has played a central role in defining our *Problematik*: through the seventies and eighties and down to the present, the mind–body problem – our mind–body problem – has been that of finding a place for the mind in a world that is fundamentally and essentially physical. If C. D. Broad were writing his 1925 book today, he might well have given it the title *The Mind and its Place in the Physical World*.

What made the demise of the brain-state theory so quick and seemingly painless, causing few regrets among philosophers, was the fact that the principal objection that spelled its doom, the so-called multiple (or ‘variable’, as they say in Britain) realization argument, first advanced by Hilary Putnam,³ contained within it seeds for an attractive alternative approach, namely functionalism. The core thesis of functionalism, that mental kinds are ‘functional kinds’, not physical or biological kinds, was an appealing and eye-opening idea that seemed to help us make sense of ‘cognitive science’, which was being launched around then. The functionalist conception of the mind seemed tailor-made for the new science of mentality and cognition, for it appeared to posit a distinctive and autonomous domain of mental/cognitive properties that could be scientifically

³ In ‘Psychological Predicates’ first published in 1968 and later reprinted with a new title, ‘The Nature of Mental States’, in Hilary Putnam, *Collected Papers II* (Cambridge: Cambridge University Press, 1975).

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investigated independently of their physical/biological embodiments – an idea that promised both legitimacy and autonomy for psychology as a science. Functionalism made it possible for us to shed the restrictive constraints of physicalist reductionism without returning to the discredited dualisms of Descartes and others. Or so it seemed at the time. The functionalist conception of mentality still is ‘the official story’ about the nature and foundation of cognitive science.⁴

But functionalists, by and large, were not metaphysicians, and few of them were self-consciously concerned about just where functionalism stood in regard to the mind–body problem. Some functionalists, like David Armstrong and David Lewis, thought that they were defending physicalism, whereas others, like Hilary Putnam and Jerry Fodor, claimed that functionalism delivered a decisive refutation of physicalism. The key term they used to describe the relation between mental properties (kinds, states, etc.) and physical properties was ‘realization’ (or sometimes ‘implementation’, ‘execution’, etc.): mental properties are ‘realized’ or ‘implemented’ by (or in) physical properties, though not identical with them or reducible to them. But the term ‘realization’ was introduced⁵ and quickly gained currency, chiefly on the basis of computational analogies (in particular,

⁴ See, e.g., Zenon Pylyshyn, *Computation and Cognition* (Cambridge, MA: MIT Press, 1985).

⁵ The first philosophical use of this term, roughly in its current sense, that I know of occurs in Hilary Putnam’s ‘Minds and Machines’, in *Dimensions of Mind*, ed. Sydney Hook (New York: New York University Press, 1960).

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mathematically characterized computing machines being realized in physical computers), and few functionalists, especially in the early days, made an effort to explain what the realization relation consisted in – what this relation implied in terms of the traditional options on the mind–body problem.

I believe that the idea of 'supervenience' came to the fore in the seventies and eighties in part to fill this void. The doctrine that mental properties are supervenient on physical properties seemed nicely to meet the needs of the post-reductionist physicalist in search of a metaphysics of mind; for it promised to give a clear and sturdy sense to the primacy of the physical domain and its laws, thereby vindicating the physicalist commitments of most functionalists, while freeing them from the burdens of physical reductionism, thereby protecting the mental as an autonomous domain. Further, by allowing multiple physical bases for supervenient mental properties, it was able to accommodate the multiple realizability of mental properties as well. Many philosophers, especially those who for one reason or another had abandoned hopes for a physicalistic reduction of the mental, sought in mind–body supervenience a satisfying metaphysical statement of physicalism without reductionism. By the late seventies, what Ned Block has aptly called 'the antireductionist consensus',⁶ was firmly in place. This has helped to enthrone 'nonreductive physicalism' as the new orthodoxy not only on the mind–body relation but,

⁶ In his 'Antireductionism Slaps Back', forthcoming in *Philosophical Perspectives*, 1997.

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more generally, on the relationship between 'higher-level' properties and underlying 'lower-level' properties in all other domains as well. Thus, the approach yielded as a bonus a principled general view about the relationship between the special sciences and basic physics.

One side effect of the entrenchment of the antireductionist consensus has been the return of emergentism – if not the full-fledged doctrine of classic emergentism of the 1920s and 30s, at least its characteristic vocabulary and slogans. When positivism and the idea of 'unity of science' ruled, emergentism was often regarded with undisguised suspicion, as a mysterious and possibly incoherent metaphysical doctrine. With reductionist physicalism out of favour, emergentism appears to be making a strong comeback,⁷ and we now see an increasing and unapologetic use of terms like 'emergence', 'emergent characteristic', 'emergent phenomenon', 'emergent cause' and the like, roughly in the sense intended by the classic emergentists, not only in serious philosophical writings⁸ but in primary scientific literature in many fields.⁹

⁷ In addition to a number of recent journal titles, the signs of the return of emergentism include a recent collection of new essays on emergence, *Emergence or Reduction?* ed. A. Beckermann, H. Flohr and J. Kim (Berlin: de Gruyter, 1992), two volumes of essays on emergence being prepared in Europe as of this writing, and the 1997 Oberlin Philosophy Colloquium on the topic 'Reductionism and Emergence'.

⁸ See e.g., John R. Searle, *The Rediscovery of the Mind* (Cambridge, MA: MIT Press, 1992).

⁹ E.g., Francisco Varela, Evan Thompson and Eleanor Rosch, *The Embodied Mind* (Cambridge, MA: MIT Press, 1993). See especially Part IV entitled 'Varieties of Emergence'.

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To sum up, then, three ideas have been prominently on the scene in recent discussions of the mind–body relation: the idea that the mental is ‘realized’ by the physical, the idea that the mental ‘supervenes’ on the physical, and the idea that the mental is ‘emergent’ from the physical. In this paper I want to explore the interplay of these three ideas, and the roles they play, in current debates over the mind–body problem, and, in the process, to indicate where I think we now stand with this problem.

II

Let us begin with supervenience. It is convenient to construe supervenience as a relation between two sets of properties, the supervenient properties and their ‘base’ properties. As is well known, a variety of supervenience relations is available, but for our present purposes fine-grained distinctions won’t matter. The core idea of mind–body supervenience is that the mental properties or states of something are dependent on its physical, or bodily, properties, in the sense that once its physical properties are fixed, its mental properties are thereby fixed. This implies that if two things – organisms, persons or electromechanical systems – have identical physical properties, they must have identical mental natures as well; that is to say, exact physical twins are ipso facto exact mental twins. Mind–body supervenience can be equivalently formulated in the following useful way: if an organism instantiates a psychological property *M* (say, pain) at a time, it has at that time some physical property *P* on which *M* supervenes, in the sense that necessarily if anything has *P*, it