

THE MIND-BODY PROBLEM by Robert M. Young

There have been, throughout recorded history, representations of a separation between the corporeal and the spiritual — in religion, philosophy, folklore and myth. On the whole, the incorporeal realm has been seen as more enduring, efficacious and valued than the corporeal, which is often described as transient of little value and even illusory.

However, this is not to say that the 'mind-body problem' of modern Western thought has a history stretching back through the mists of time. Indeed, for more than a thousand years prior to the seventeenth century, the reigning mode of explanation sorted out reality and causality along quite different lines or, rather, without the sort of lines associated with a sharp dichotomy between the mental and the physical. Nor were there sharp distinctions between ideas of causality, of what is ultimately real (ontology) and of how we can know with certainty (epistemology). All lay within an integrated Aristotelian (we should now say organismic) framework of causes or 'comings to be': the material cause (that out of which, or roughly, our concept of matter); the efficient cause (the source of energy: that which produces or imparts motion or shapes); the formal cause (that which gives form or plan in the sense of an architect's or craftsman's plan) and the final cause (the purpose or goal or that for which). All 'comings to be' — things, events, processes — were seen as constituted by all four causes, which could only be separately considered analytically. Debates about philosophy in the Renaissance were putting this framework under strain, so that the material and efficient causes were drifting towards one pole and the formal and final ones towards another. However, it would be anachronistic to treat these imputed poles as recognised extremes in a mind-body dichotomy. Other notions, such as that of 'substantial form' or ones invoking pre-Aristotelian, i.e., atomic, concepts also put the form/matter dichotomy under strain. If we cease to look at the pre-modern formulations and ask when the mind-body problem became conceptualised in the ways which we can recognise as more or less our own, the answer lies in the philosophical writings of René Descartes (1596-1650) and in his place in the so-called 'Scientific Revolution' of the sixteenth and seventeenth centuries. I say so-called, because it would be a huge historical oversimplification to trace a single thread from his *Discourse on Method* (1637) or *Meditations* (1641) to the present. History is always messy, and intellectual history is no exception to this rule. In the case of the mind-body problem, this means that Aristotelian thinking never died and was perpetuated, for example, in the study of living phenomena ('biology' is a nineteenth-century term). Similarly, Platonic ideas of the universality of ideal forms linked to geometrical and numerical properties continued, as did mystical and alchemical notions which were intermixed with the persistence of Aristotelian and Platonic notions. These admixtures persisted in the work of the leading figures of the Scientific Revolution, for example, Copernicus, Kepler, Galileo and Newton. Moreover, materialist and atomist philosophies were being advocated, some of them drawn from classical sources, in the writings of Hobbes and Gassendi.

Even so, it is in the writings of Descartes that we find the full-blown paradox of the mind-body dichotomy. His method of radical doubt led to a single certainty: 'I think, therefore I

am' — a theory of knowledge based on subjectivity linked to a theory of ultimate reality based on 'thinking substances' as one class of existence. Mind was being put forward as a self-contained sphere of enquiry.[1]

This pole of the dualism was linked to an equally strongly-held belief that causality in the material world is based on matter in motion, 'extended substances', obeying their own material laws. Introspection became the basis of certainty, while scientific knowledge of the external world depended on the laws of matter and motion.

These two bases for knowing opened up two closely-linked chasms in modern thought: the ontological (between mind and body) and the epistemological (between subject and object). Matter came to be defined in ways that made it amenable to treatment in mathematical terms and to the experimental method, leading to the notion that scientific explanation must be in terms of bodies: extension and shape, treated mathematically. Although misunderstanding William Harvey's theory of the circulation of the blood, Descartes utilised it as the key to the comprehension of all of the rest of nature. This was merely the motion of material substances without a vital spirit or special causes but simply heat and the motions of the parts. The question of how much this left unexplained within the study of living nature will be discussed further on. However, even on its own terms, the formulation of a reality consisting of extended substances and non-extended substances was fraught with difficulty. The non-extended substances were defined negatively as partaking of all the attributes that do not apply to body (i.e., which cannot be treated mathematically and experimentally). The essence of this was, of course, free will. We see in the philosophy of Descartes a grand historic compromise in which the claims of scientific explanation produced a definition of matter, while the claims of the church and moral responsibility produced a definition of mind. Yet those two were incompatible.

How do body and mind interrelate in life and in knowing? This puzzle led to the classical 'problem of interaction', a perennial philosophical conundrum which still gets dismissed generation after generation until one thinks eventually of unanswerable questions such as how thoughts can cause actions or how unconscious fantasies can cause psychosomatic illnesses such as ulcers, asthma and colitis. How do thoughts impact on particles of matter and how do material impacts cause thoughts, including the thoughts which lead from sensation to knowing? We are left wondering not only how we know anything for certain but how we have any experience at all, especially the experience of other minds. How can two sorts of basic substances which are *defined* so that they have nothing in common then have causal relationships in the 'having' of experience and the 'willing' of action?

If the scandalised tone of these questions seems eccentric, here are the opinions of two eminent philosophers, Whitehead and Burt, reflecting on the mind-body problem and the closely-linked problem of knowledge.

The seventeenth century had finally produced a scheme of scientific thought framed by mathematicians, for the use of mathematicians. The great characteristic of the mathematical

mind is its capacity for dealing with abstractions; and for eliciting from them clear-cut demonstrative trains of reasoning, entirely satisfactory so long as it is those abstractions which you want to think about. The enormous success of the scientific abstractions, yielding on the one hand *matter* with its *simple location* in space and time, on the other hand *mind*, perceiving, suffering, reasoning, but not interfering, has foisted onto philosophy the task of accepting them as the most concrete rendering of fact.

Thereby, modern philosophy has been ruined. It has oscillated in a complex manner between three extremes. There are the dualists, who accept matter and mind as on equal basis, and the two varieties of monists, those who put mind inside matter, and those who put matter inside mind. But this juggling with abstractions can never overcome the inherent confusion introduced by the ascription of *misplaced concreteness* to the scientific scheme of the seventeenth century.[2]

E. A. Burtt spells out the consequences of the doctrine for human self-knowledge.

...it does seem like strange perversity in these Newtonian scientists to further their own conquests of external nature by loading on mind everything refractory to exact mathematical handling and thus rendering the latter still more difficult to study scientifically than it had been before. Did it never cross their minds that sooner or later people would appear who craved verifiable knowledge about mind in the same way they craved it about physical events, and who might reasonably curse their elder scientific brethren for buying easier success in their own enterprise by throwing extra handicaps in the way of their successors in social science? Apparently not; mind was to them a convenient receptacle for the refuse, the chips and whittings of science, rather than a possible object of scientific knowledge.[3]

Deep within the grand mind-body dichotomy lay the problem of parcelling out the qualities to assign to the separate realms. When one embarks on this task, new puzzles abound. The qualities which can be treated mathematically and which are thought not to vary according to subjective bias are called primary. It is a short list, and items keep falling off it. Extension and shape are the only enduring ones. Even hardness has a difficult time keeping its place, and physical theories based on forces and fields compete successfully with those based on atomic particles. But the realm of colour, odour and taste — the texture of experience — gets relegated to the domain of secondary qualities. These are seen as less real and are the effects of the vicissitudes of matter in motion. Aspects of this concept of 'primary and secondary qualities' were developed in the writings of Descartes, Galileo, Newton and Locke.

Whitehead is eloquent in his critique of the features and the consequences of the doctrine of primary and secondary qualities, a doctrine which lies at the basis of modern thought just as securely as the parent mind-body dichotomy.

Locke, writing with a knowledge of Newtonian dynamics, places mass among the primary qualities of bodies. In short, he elaborates a theory of primary and secondary qualities in accordance with the state of physical science at the close of the seventeenth century. The primary qualities are the essential qualities of substances whose spatio-temporal relationships constitute nature. The orderliness of these relationships constitutes the order of nature. The occurrences of nature are in some way apprehended by minds, which are associated with living bodies. Primarily, the mental apprehension is aroused by the occurrences in certain parts of the correlated body, the occurrences in the brain, for instance. But the mind in apprehending also experiences sensations which, properly speaking, are qualities of the mind alone. These sensations are projected by the mind so as to clothe appropriate bodies in external nature. Thus the bodies are perceived as with qualities which in reality do not belong to them, qualities which in fact are purely the offspring of the mind. Thus nature gets credit which should in truth be reserved for ourselves: the rose for its scent; the nightingale for his song; and the sun for his radiance. The poets are entirely mistaken. They should address their lyrics to themselves, and should turn them into odes of self-congratulation on the excellency of the human mind. Nature is a dull affair, soundless, scentless, colourless merely the hurrying of material, endlessly, meaninglessly.

However you disguise it, this is the practical outcome of the characteristic scientific philosophy which closed the seventeenth century.

In the first place, we must note its astounding efficiency as a system of concepts for the organisation of scientific research. In this respect, it is fully worthy of the genius of the century which produced it. It has held its own as the guiding principle of scientific studies ever since. It is still reigning. Every university in the world organises itself in accordance with it. No alternative system of organising the pursuit of scientific truth has been suggested. It is not only reigning, but it is without rival.

And yet — it is quite unbelievable. This conception of the universe is surely framed in terms of high abstractions, and the paradox only arises because we have mistaken our abstraction for concrete realities.[4]

What a mess! Yet is well and truly still *our* mess. If we look at the goals of Newtonian explanation, we find him claiming that the whole business of natural philosophy is that from the phenomena of matter and motion we are to explain all the other phenomena. If we look at a modern textbook, we find roughly the same terms of reference. In the Royal Society document on *Qualities, Units and Symbols* (1975), we find the following on page 6:

The value of a *physical quantity* is equal to the product of a *numerical value* and a *unit*. Neither any physical quantity nor the symbol used to denote it should imply a particular choice of unit, operations on equations involving physical quantities, units and numerical values, should follow the ordinary rules of algebra.

On page 8 it says,

Each physical quantity is given a name and a symbol which is an abbreviation for that name. By international convention *seven* physical quantities are chosen for use as dimensionally independent base quantities: length (l), mass (m), time (t), electric current (i), thermodynamic temperature (T), amount of substance (n) and luminous intensity (Iv). *All* other physical quantities are regarded as being *derived* from the base quantities.

This is the bedrock of all explanation, and on it we must, in principle, erect *all* knowledge, all explanation.

Every attempt to transcend the mind-body dichotomy and the problem of interaction can be said to fall foul of some deep problem. As Whitehead said, there are basically three positions: dualists, materialists and idealists. In fact, the classification is somewhat more elaborate.

Classical Cartesian dualism invokes God at the point of interaction. For Descartes, the physical point of interaction where the miracle occurs countless times each day was the pineal gland or *conarium*. Modern *interactionists* take it as given that interaction between physical and mental events occurs, though they can in no sense explain it in causal terms.

One way of avoiding this scandal is to say that mental and physical events occur in parallel, without calling for interaction or a doctrine of mind-body causality. This approach was adopted by Malebranche (1638-1715), who invoked God to keep the mental and the physical events in step. Secular versions of *psychophysical parallelism* or the doctrine of concomitance have been widespread in the nineteenth and twentieth centuries. For example, they were held by the philosopher, psychologist and evolutionary thinker, Herbert Spencer, by John Hughlings Jackson, the father of modern neurology, who adopted it from Spencer, and by Freud, who applied Jackson's ideas in his first book, *On Aphasia* (1891) and continued to hold this view until his last writing, *An Outline of Psychoanalysis* (1940).

A recent exponent of psychophysical parallelism in neurology and philosophy is Hertwig Kuhlenbeck. The strength of the theory lies in its candour: psychophysical parallelists simply shrug their shoulders at the problem of interaction while making full use of the rich languages of mind and body. It can be argued that much of modern philosophy is parallelist in that elaborate theories of mental causation — the association of ideas — have been spelled out in the psychological writings of Locke, Hume, Hartley, James Mill, John Stuart Mill, G. H. Lewes, Spencer and Alexander Bain, among others, without, however, any denial of concomitant physiological mechanisms or commitment to causal explanations. The mental elements have been persistently described in ways which are closely analogous to concepts involving atoms and their interactions in physics. For example, in David Hartley's *Observations on Man* (1749), ideas and their associations paralleled postulated vibrations and 'vibratiuncles' in the brain. Similarly, William James commented on the close parallelism between the concept of the association of ideas and the neurone theory of the nervous system.

From this it is, of course, but one step to say — consistent with the doctrine of primary and secondary qualities — that the mental realm has no autonomy or causal efficacy, and that mind is merely an effect or epiphenomenon of physical and physiological processes. This is materialist monism or *materialism*, a doctrine which has had its advocates since antiquity and was assiduously advocated by Hobbes in the seventeenth century and by numerous philosophers in the nineteenth and twentieth centuries. Examples of this are the Helmholtz School of Physiology in nineteenth-century France and Germany and behaviourism in twentieth-century American psychology and British philosophy. There was a group of experimental physiologists in the mid-nineteenth century including Helmholtz, Brücke and Dubois-Reymond who held that there are no forces other than the ordinary physico-chemical ones operating in the organism, although they left room for the positing of, and research on, other natural and measurable forces.

The doctrine of behaviourism was developed in America in the early decades of the twentieth century. Its leading advocate was John B. Watson, who moved on from saying that psychology should adopt experimental methods for the study of organisms to saying that there are no minds, only observable behaviour. Thought became a sort of implicit speech. Behaviourism was closely linked to objective and operationist movements in physics and to astringent doctrines in philosophy which attempted to model philosophical thinking on the natural sciences. This point of view was most eloquently put in the analytical philosophy of Gilbert Ryle, whose *The Concept of Mind* (1949) was influential in the 1950s until the vein of psychological and philosophical behaviourism was played out, and researchers in both disciplines began to look again at meaning and subjectively in less restricted, though no less disciplined, terms. A persistent problem with materialist monism from its ancient form to its modern-day advocates in physics, physiology and molecular biology is that the concept of matter bequeathed to us by the seventeenth century is simply too impoverished — too stripped of the qualities of lived experience — for it to be credible that *that* matter can produce life and mind. There is something unutterably bleak at the heart of the doctrine that there is only matter; foolish, too, as the above passage from Whitehead shows.

The classification I have given here is not exhaustive. For example, a variant of materialism is *identity theory*, whereby the logically separate domains of mental and physical are said to be based on an empirical identity: brain states. This leaves the subject's observations of his or her mental events in an ontological limbo. Other attempts to transcend the patent difficulties in the existing dualistic and monistic theories have postulated a *neutral monism* or have interpreted mind and body as two *aspects* of a single underlying reality. Those who advocate identity theory, neutral monism or aspect theory would, of course, argue that they have overcome the absurdities of traditional 'solutions' to the mind-body problem.

And yet the final choice — that there is only mind — is equally or possibly even more incredible. There has perhaps never been a consistent mentalist monist. Indeed, in *Individuals* (1959) P. F. Strawson went to some lengths to show that connection to some

body in the past or present is essential to the identification of persons, things and other particulars. Perhaps Berkeley and some mystics were genuine idealist monists.

All of this leads one back to the drawing board. If interactionism, parallelism, materialism and idealism won't do, a way has to be found to grant matter its due, yet to give us back a recognisable world at the end of the day. In fact, real and sensible philosophers and scientists have rarely held pure versions of the above doctrine. In particular, they have persistently endowed matter with properties that go beyond the extremely short list of the seventeenth-century purists. For example, as the debate continued about what aspects of life, including human nature, could be described by the mechanical philosophy, J. O. de la Mettrie (1709-51) argued that *Man is a Machine* (1747), while enriching the concept of 'machine' enough to take the sting of despair out of his title for those who read his treatise carefully. Similarly, Albrecht von Haller (1708-77) argued that as long as we could do experiments, we could postulate whatever *biological* properties we need, e.g., sensibility or contractility. If one looks at a modern biological or physiological text, all sorts of properties are invoked without anyone (or practically anyone) intending to invoke special, vital or purely unmaterialistic forces. Thus 'inherent rhythmicity', 'pacemakers', 'organisers', 'homeostasis' and 'positive and negative feedback' are all concepts which span the realms of mechanism and purpose which were so starkly split in Cartesian dualism. Therefore, biological properties in the study of purposive mechanisms have broken through the strictest version of Cartesian dualism with its impoverished concept of matter.

Some have wished to elevate this transcendence of Cartesian dualism into a new philosophy and to argue for a doctrine of *emergence*. When hydrogen and oxygen combine to produce water, the property of wetness (absent in hydrogen and oxygen separately) is called an 'emergent'. Similar claims are made for the emergent properties of life and mind and, by some, spirit. This is an odd view. It is one thing to note what matter can do and thereby enrich our concept of it. It is quite another to hypostatise properties and give them a new ontological status and causal efficacy under the title of 'emergents'. It recalls Moliere's *Tartuffe*, who explains that opium works because it has a 'soporific virtue'.

Another path by which the mind-body problem has been transcended is much trodden by the emergentists. It is the theory of evolution. The key point of evolution is its gradualism. At what point does mind appear? Animals evidently feel (though this was hotly debated in the wake of Cartesianism). Do they then think? Do they have a true language? Are they responsible? What, if any, are their rights? Do plants have the same rights as slugs, and do cats, dolphins and whales have the same rights as humans? Are less clever animals as responsible as bright ones? It could be argued that it depends on how much 'mind' a given creature has. Alternatively, it could be argued — and has been argued — that the linkage of mind, responsibility and will misses the whole point of relations among creatures and their world. Evolutionism undermines sharp dichotomies and makes a mess of scales of moral worth. The attempt to retain a simple dichotomy between mind and body is also hard to maintain in the face of recent studies of psychosomatic symptoms. The title of a collection of

clinical and philosophical studies makes the point nicely: it is *The Mysterious Leap from the Mind to the Body*.^[5] Yet the messages of the psychosomatic symptom, when unravelled in psychoanalytic therapy, are perfectly legible in the languages of metaphor, pun and symbol. The crude concept of 'somatic [corporeal] compliance' seems a poor way of hiding our ignorance of how feelings get manifested physically as a symptom, a way of avoiding thinking about, and consciously knowing, human distress.

In this brief treatment, many aspects of the mind-body problem have been eschewed for the sake of clarity. If one cast one's net more broadly, one would have to agree with Feigl: 'It is truly a cluster of intricate puzzles — some scientific, some epistemological, some syntactical, some semantical, and some pragmatic. Closely related to these are the equally sensitive and controversial issues regarding teleology, purpose, intentionality, and free will'.^[6]

Rather than remaining split by the mind-body problem, it would surely be better to find a way of knowing that (to paraphrase Gilbert and Sullivan) the meaning isn't matter and never idle patter of a transcendental kind. Nature is a meaningful unity, of which our philosophies must be seen as a part. Those, like Rorty, who would dissolve the history of the great questions of ontology and epistemology — of mind/body and subject/object — into a moving army of metaphors, seem to me to be appropriately gentle:

These so-called ontological categories are simply the ways of packaging rather heterogeneous notions, from rather diverse historical sources, which were convenient for Descartes' own purposes. But his purposes are not ours. Philosophers should not think of this artificial conglomerate as if it were a discovery of some thing pre-existent — a discovery which because "intuitive" or "conceptual" or "categorical" sets permanent parameters for science and philosophy.^[7]

That is to say that what we mean by reality, including minds, bodies, persons and other dimensions of nature, is inside history and open to historical revision and reconceptualisation. It is to be hoped that the concepts will be friendly rather than tyrannical.

NOTES

1. R Rorty, *Philosophy and the Mirror of Nature* (Princeton, 1980), p. 120.
2. A. N. Whitehead, *Science and the Modern World* (1925; reprinted London, 1985), p. 70.
3. E. A. Burt, *The Metaphysical Foundations of Modern Physical Science*, 2nd ed. (London, 1932), pp. 318-19.
4. Whitehead, (1985), pp. 68-9.
5. F. Deutsch, (ed.), *On the Mysterious Leap from the Mind to the Body* (New York, 1959).

6. H. Feigl, 'The "Mental" and the "Physical"', in H. Feigl *et al.*, (eds.), *Minnesota Studies in the Philosophy of Science* (Minneapolis, 1958), Vol. 2, pp. 370-497, at p. 373.

7. Rorty, (1980), p. 125.

FURTHER READING

R. G. Collingwood, *The Idea of Nature* (Oxford, 1945).

R. Descartes, *Discourse on Method and the Meditations* (trans. E. A. Sutcliffe, Harmondsworth, 1968).

P. K. Feyerabend and G. Maxwell, (eds.), *Mind, Matter and Method: Essays in Philosophy and Science in Honor of Herbert Feigl* (Minneapolis, 1966).

A. von Haller, 'A Dissertation on the Sensible and Irritable Parts of Animals', with an introduction by O. Temkin, *Bulletin of the History of Medicine*, 4 (1936), 651-99.

H. Kuhlenbeck, 'The Meaning of "Postulational Psychophysical Parallelism"', *Brain*, 8 (1958), 588-603.

G. Ryle, *The Concept of Mind* (London, 1949).

P. F. Strawson, *Individuals: an Essay in Descriptive Metaphysics* (London, 1959).

A. Vartanian, *La Mettrie's L 'homme machine: a Study in the Origins of an Idea* (Princeton, 1980).

R. M. Young, 'Animal Soul', in P. Edwards, (ed.), *The Encyclopedia of Philosophy* (London, 1967), Vol. 1, pp. 122-7.

R. M. Young, 'Freud: Scientist and/or Humanist', *Free Associations*, 7 (1968), 7-35.

Reprinted from R. C. Olby *et al.*, eds., *Companion to the History of Modern Science*. Routledge, 1990, pp. 702-11.