

PHYSICALISM, PROPERTY DUALISM AND RESPONSIBILITY

by Peter Gibson

Ever since Thomas Nagel wondered what it was like to be a bat, there has been a flood of arguments from philosophers trying to stop an inexorable drift towards physicalism about everything. In approximate order of appearance these seem to be:

1. the denial of psycho-physical bridge laws¹
2. the modal argument²
3. the privacy argument³
4. the claim that zombies and inverted qualia are possible⁴
5. the knowledge argument⁵
6. the evidence of blindsight⁶
7. the limitations of algorithms⁷

The **denial of psycho-physical bridge laws** seems to have behind it a notion of irreducible freedom. Following Kant, the claim is that if the mind operates in a world of reasons, this requires a dimension of seemingly infinite freedom, and hence the world of the finite brain and physical laws cannot directly (nomologically) imply such freedom.

This seems to rest on two dubious assumptions. The first is simply the traditional intuition that conscious experience seems so different from physical matter that bridging the gap is beyond our imagination. In this argument it is reasons that are unfathomably different, where in previous arguments it is the feeling of pain, or the sense that thoughts are non-spatial. All three seem to beg the question, if physicalism is asserting that these properties are entailed by brain structure. In particular, it doesn't seem contradictory to think of reasons as reducible. A plant has a reason to put down roots. We may call this an entirely 'external' reason. But a frog has a reason to dart its tongue out at a fly, and this seems to have an 'internal' component in the frog's perceptions and drives. There seems to be no difficulty in escalating this to human reasons, as long as we allow for the striking expansion in scope of imagination made possible by language and consciousness.

The second dubious assumption is that there is more freedom in consciousness than is possible in the brain. But a feeling of freedom only requires that the scope of thought be very extensive, not transcendently infinite. Animals in a very large game reserve have all the freedom they could ever want. And the exceptional scope provided by the neat trick of consciousness, somehow generated within some 10^{14} connections of our frontal lobes, gives us more imaginative freedom than we can cope with. I can't, however, imagine what ultra-violet looks like to an insect, or infinity, or what it is like to be an octopus. Getting something stupendously large but finite from a few building blocks and rules is not magical, since our language illustrates how to do it, with a finite vocabulary and a set of syntactical rules. If sentence length is restricted, possible statements are finite, and only concatenation of unlimited sentences suggests the possibility of infinity - but that will require infinite time.

We may reasonably claim, therefore, that psycho-physical bridge laws (required for the reductionist picture of strict (type-type) physicalism) are logically and naturally possible. The prospect of discovering them looks daunting, but it is more to the point that such laws are unlikely to be worth the trouble. There is no meta-law (not even Ockham's) that says all laws must be simple. We may reasonably hope to discover the 'neural correlate of consciousness', but the law that says that the Grand Canyon is a good reason for going to Colorado is no more worth working out than calculating where every stone will land after a volcano explodes.

The **modal argument** has its origin in the Sixth Meditation of Descartes, where he argues that since the mind must necessarily exist when thinking, but the body's existence seems to be contingent (because we can conceive of its absence during thought), it follows that mind and body are not the same. This inference rests on what is now called 'Leibniz's Law' (identicals must have identical properties, so a difference of properties proves non-identity). However, the argument was not good, and seems to involve the greatest source of major error in philosophy, the confusion (or blurring) of ontology and epistemology, of how things are with how we know about them.

Descartes' argument clearly begs the question, since physicalists say that a physical basis (probably a brain) is *necessary* for thought. Whether the brain actually shares the necessary existence implied by the Cogito is a matter of ontology. Whether Descartes doubts the brain's necessity is a matter of epistemology. Humans can doubt or believe all sorts of things, but this has no effect on the existence of the objects of their beliefs. To merely assert one's belief that the brain's existence is contingent can't possibly be an *argument* for the brain's contingency.

Kripke returned to this argument once he had clarified the concept of identity in terms of possible worlds. A true identity, such as 'Hesperus' being 'Phosphorus' (they are both the same planet, Venus), will hold in all possible worlds, and so is necessary. Unfortunately the early physicalists, such as J.J.C. Smart, asserted that the identity of mind and brain was contingent.⁸ This, alas, was a confusion of ontology and epistemology, and made the so-called 'identity theory' an easy target for Kripke. The identity seems to be contingent because it is a matter of scientific investigation, and may or may not turn out to be true. But this is epistemology. The mind and the brain are either identical or not, just as every number above two may

¹ Davidson (1969) [Sorry – no page numbers in these notes]

² Kripke (1972)

³ Nagel (1972)

⁴ Chalmers (1995)

⁵ Jackson (1986)

⁶ Lockwood (1989)

⁷ Penrose (1992)

⁸ Smart (1959)

turn out to be the sum of two prime numbers, or not. The facts will be necessary, despite the contingency of whether we discover them. Strangely, instead of simply pointing out this error, Kripke chose to tilt at straw men, and argued that the identity theory is wrong, by resurrecting Descartes' claim. He argued that since the physicalists claimed contingent identity, and Kripke had shown that there is no such thing, physicalism is false.

It should be emphasised that there is no *de re* contingent identity (that is, identity of the things in themselves, the ontology), but there can be *de dicto* contingent identity (that is, identity under a particular description, the epistemology), as when Tony Blair happens to be identical with the PM, at the moment. Physicalism is concerned with the proposed *de re* identity of mind and brain (however you describe them), which, as Kripke showed, is necessary if it is true. Hence the modal argument no longer has anyone to tilt at.

The claim that **zombies are possible** is occasionally labelled as an 'argument', but it is more accurately resolved into the 'claim' that zombies are possible (that is, that I could have a perfect twin who was identical to me in every physical respect, and yet lacked consciousness). Chalmers admits that zombies seem naturally impossible, but asserts that they are logically possible. This seems akin (in an analogy of Kripke's) to saying that God could create the physical world on Thursday, and then add the consciousness on Friday, which seems to be a bald assertion of dualism, and thus begs the question. If God were to add a new substance on Friday, this, of course, would imply dualism; if, however, he were to add a new property on Friday to his completed physical world, this is akin to creating the rocks on Thursday, and then adding their hardness on Friday, but if the rocks weren't hard on Thursday, they weren't rocks.

The physicalist slogan is "the physical facts entail all the facts"⁹. The hypothesis of zombie twins must at least imply that the physical facts entail all of the causal facts about the brain (because my twin must behave just like me), so consciousness could only be added later if it was an epiphenomenon. The idea that consciousness makes no difference will be anathema to traditional dualists, and deeply implausible to anyone accepting the evolutionary hypothesis. It also makes the behaviour of a zombie who replies in the affirmative (as it must) to the question "are you conscious?" very puzzling. Hence the possibility of zombies is not an argument at all, but merely a consequence of the falsehood of physicalism. Seems the possibility of epiphenomenalism seems unlikely, so do zombies.

The **knowledge argument** (exemplified in Frank Jackson's case of 'Mary', who has all the theoretical knowledge of colour, and then acquires "new knowledge" when she first experiences it) implies that facts about experience are not facts about brains. Any other interpretation would be another confusion of ontology with epistemology, since reference to 'facts' is the clearest hallmark of an ontological claim. For the argument to work Mary will need to acquire a new *type* of knowledge (otherwise smelling gooseberries for the first time could prove that gooseberries existed in a radically different order of reality). There seems no difference between Mary's case, and someone dramatically recovering from total monochrome colour blindness, and that would only seem to be new knowledge if it was also 'new knowledge' when someone saw a new shade of amber for the first time. Mary already has sight, and has been relishing a feast of subtle grey tints for years. She has also inferred the existence of other colour experiences from her brain research, and spent frustrating afternoons reading books about fauvist art (like a deaf person reading about music). When she sees colour for the first time, she has expanded her repertoire, and gained new information (her apple is going mouldy), but she is not going to assert the discovery of a "new type of knowledge". She would not even make this claim if she suddenly recovered from blindness, or found that she could see gravity waves.

How many senses we have, or how wide the receptivity of each sense, is an epistemological matter, which has again become confused with the facts. Red apples emit radiation at a particular wavelength, and now happily has a way of registering this. There is a new fact about her own epistemological equipment, but we can't count our own responses as new knowledge, otherwise if Mary suddenly discovered a love of ballet (which used to bore her) this will also be new knowledge, thus adding ballet to our ontological catalogue.

'**Blindsight**' seems to imply that we can take in visual information without experiencing it, and some claim that this makes experience ontologically distinct from the information processing. Such an interpretation only seems to arise if we believe that nearly all mental processes occur in consciousness (apart from some disreputably Freudian demons), but modern brain research drastically undermines this. For example, walking on a flat surface and on a rough one seem identical as experiences, with the latter requiring a bit more of our consciousness, but we now know that the two modes of walking are controlled by quite separate areas of the brain¹⁰. Neither of these areas appears to be conscious. This seems to make the awareness (in this case) largely epiphenomenal, even though we concentrate hard on the rough terrain. It seems reasonable to deduce that the same applies to most visual experience - that the awareness is only a small part of what is going on in the brain - and so the phenomenon of blindsight is neither surprising nor of great significance. Stripping away the awareness level revealed something which had already become obvious. Blindsight will only be evidence against physicalism if that particular aspect of perception is established as ontologically special by one of the other arguments.

Penrose's argument to prove that **no algorithm** (such as a software procedure) **could ever generate consciousness** is a complex matter centring on Gödel's Second Incompleteness Theorem. The underlying doubts about his strategy, though, seem simple. Is a proof that an axiom system such as arithmetic cannot be internally complete relevant to a loose system of response to reality like the mind? And are the doubts about algorithms merely the result of excessive deference to consciousness, with its supposed non-spatiality, perfect free will, infinite possibilities, pure reason, and personal identity? The idea that consciousness might arise from algorithms is mainly an attack on functionalists, notably machine-functionalists like Fodor, who think the concept of a universal Turing machine is the basis of mind. Chalmers, too, opts for function as the probably

⁹ Lewis (1976)

¹⁰ Rita Carter (2000)

basis of experience¹¹. Physicalism, however, sees conscious as a matter of biology rather than algorithms, and is immune to the challenge.

The puzzle and challenge of "**What is it like to be....?**" is not confined to bats. What is it like to be a chimpanzee, or Tony Blair, or myself when I was a child, or myself five minutes ago? The question cries out for an anthropomorphic response, when it seem perfectly arguable that most animals are not at all aware of what they are doing¹². The question also seems to cry out for an all-or-nothing view of awareness, when it may come in degrees. Dolphins seem very bright, but can't grasp that they could escape fishing nets by jumping over them, and a frog will starve to death surrounded by edible dead flies. The question mixes two features of the mind that should concern physicalists - the mind's subjectivity, and its privacy. A sensible physicalist will concede the existence of both phenomena, and then invite further questions. Do we wish to know *how* these phenomena occur? Do we need to know the ontological status of whatever makes them possible? Are we actually concerned about morality, value and religion, rather than the mind? The privacy question was elegantly capture by Leibniz in his vision of the brain expanded to the size of a flour mill¹³. But if we examined the granular structure of an iron bar, would we see the magnetism? Or see yellow in the quantum movements of pain molecules? Or learn from a highly magnified view of a bird's feather that it was flying?

The fact that conscious minds have 'subjectivity' needs clarification. If the issue is one of personal (or animal) identity, this only seems to be the observation that each consciousness seems to have a central controller. We can (as Russell did) concede the existence of such a self at a given instant in thoroughly physical terms, without entering into the question of stable identity over time. Edelman, a leading neuro-scientist, strongly asserts the existence of a 'core' to consciousness, and parts of the brain can override others, with the human conscious mind (the will?) able to override almost any prompting of the rest of the brain. Clearly if 'I' am the conscious controller of my own brain, I can't simultaneously be the controller of you, or of a bat, so being locked into one mode of existence will obviously preclude all others, but this is not a puzzle.

If we are saying that 'subjectivity' essentially means having a point-of-view (in a way that, say, a Venus Fly Trap lacks one), this is merely another way of saying that 'subjective' beings are aware of what they do, which brings us back to the original problem.

The upshot of this survey of modern arguments against physicalism is that at the core of all of them is an intuition - that consciousness is such a strange phenomenon (by comparison with all other features of the physical world) that fitting it into a physical world is beyond the powers of our imagination. Colin McGinn has (notoriously) become a 'mysterian', saying that we just lack the mental equipment for the task. Apart from seeming a bit defeatist, I suspect that this rests on the error of thinking that we only understand something if we can fully imagine it. This was shown to be false by Descartes, with his example of a chiliagon¹⁴ (a thousand-sided figure, which we can *not* imagine, but can fully understand). It seems unlikely that Einstein every clearly imagined the structure of the universe implied by his General Theory.

Functionalism, eliminativism, and Cartesian dualism all now seem implausible (even Putnam has given up functionalism), and the right account seems to be that consciousness is a property of the frontal lobes of the brain. The remaining question seems to be whether the 'neo-dualists' (as Perry labels them¹⁵) can produce an account of 'property dualism', which will somehow retain the old yearnings of religious dualism, while not hopelessly contravening the remorseless march of naturalistic explanations. Davidson has been the source of this idea, by labelling consciousness as a natural 'anomaly', and by offering the loose relationship of 'supervenience' between mind and brain to uniquely characterise the situation. If this leads to 'property dualism', then properties need some careful thought.

Properties are understood as features of objects which either enable them to be picked out, or which give them causal powers. While there is no total precision in this area, it seems that some properties are naturally necessary, and others are contingent. Thus no scientist could make sense of a piece of iron lined up in the manner appropriate for magnets, which yet exhibited none of the properties of a magnet. A child, of course, could easily imagine this, but this merely shows that our imagining a situation is not sufficient for its possibility (as well as not being necessary). However, we could easily see how a London bus could fail to have the property of being red.

In addition, we can distinguish between properties which are independent and those which are mutually entailed (by natural laws). Thus being green is independent of being square, but being square entails have fairly sharp corners.

It is hard to find a 'property dualist' who will give a succinct definition of the idea, with Heil, for example, just saying that there are 'two distinct families of properties'¹⁶. The two central properties concerned are evidently 'being conscious' and 'being material' (having mass, for example). The idea is that (contrary to Descartes, but in sympathy with Spinoza) there is only *one* thing which has the two properties. The obvious question from the sceptic is to ask for a distinction between 'property dualism', and merely 'having two properties'. Clearly being red and being square is not a case of property dualism. We might say that the properties are 'dual' because the consciousness is not entailed by its material base (thus allowing God to add the extra property on Friday). This model fits the contingent property of a London bus being red, but the contingency there arises from human intervention. We can't really say that the greenness of most leaves is contingent. We might say that it is contingent that after rain the lawn is wet, since it could have been otherwise, but that is a confusion. It is a natural necessity that a thing will be wet if it has had water poured over it. The hopes being raised by the prospect of a property which is not

¹¹ Chalmers (1995, p.426)

¹² e.g. Dennett (1996)

¹³ Leibniz (1716, §16)

¹⁴ Descartes (1641, §5)

¹⁵ Perry (2000)

¹⁶ Heil (1994, p.48)

entailed by its physical base just leads us back to zombies, which can live without consciousness, but their existence seemed to be an implausible.

We seem to be left with a unique situation, of a property which *is* part of an object, is somehow loosely ('superveniently') entailed by the physics of the object, yet has its own causal powers to affect that object (as when I turn my head to look at something which interests me). We cannot see any mutual entailment with a second property of an object (such as its complexity), but this begs the question of whether such a property (the 'neural correlate of consciousness') might be discovered. Crick, for example, suggests 40Hz oscillations in layer 6 and 7 of the visual cortex. Davidson has a notorious problem with epiphenomenalism, since he is placing the mind outside normal causal laws. If the mind is a property, it hard to seeing how it can be considered a property *of* the brain, if the property is only loosely connected to its object. Full-blown dualism seems but a step away.

If we firmly reject both total eliminativism about consciousness, and traditional dualism, and say that consciousness is a natural property of the frontal lobes of the brain (Searle's view¹⁷), it is necessary to show how this affects the worst fears of the 'neo-dualists'. The issues that really matter to philosophers are ontology, agency, responsibility, freedom, identity and reason. The ominous news is that if all mental life is entailed by physical events, there can be no 'fully metaphysical' free will, and this endanger the existence of much that philosophers value.

The free will problem is intractable without some concept of what a truly free will is supposed to be. There seems no doubt that the traditional concept is of a will utterly outside all causal laws. An act of will originates in itself, and is an event without a cause (even though the event has an origin). The only non-human analogy is the concept of God as the First Cause, which was postulated (e.g. in Aquinas's Second Way) to avoid the infinite regress implied by the Principle of Sufficient Reason. Thus we find humans literally seeing themselves as being like God (or, in Plato's case, like the gods, who are 'unmoved movers' - but for him "all things are full of gods"¹⁸). This may appeal to some, but on the whole the modern temperament is to gently put this to one side, since it doesn't seem persuasive that a mundane mammal is equal with God every it decides to pick up a cup. Since the term "free will" seems weighed down with this huge metaphysical claim, it too should be put to one side. The only plausible modern defence of it is by John Searle¹⁹, who places an interesting emphasis on what he calls "the gap" - which is the subjective moment which falls between the final survey of our reasons for an action, and the actual initiation of the action. This implies the existence of something called "the will" (an aspect of the self often doubted by empiricists²⁰), and Searle attributes traditional 'freedom' to it. For now we may simply say that this is a bit precipitate.

While a broad view of reality and its apparent laws encourages a belief in determinism, the strongest arguments against it (and also in favour of 'neo-dualism') are subjective ones. "All experience is in favour of free will", said Samuel Johnson. However, a re-examination of experience may change that view. If, as noted earlier, we consider that consciousness is a very large (but finite) 'space', which imagination fills with a stupendous (but finite) array of options, and also note that our capacity for meta-thought and meta-meta-thought is impressive but limited, we begin to see our mental life (even our acts of 'will') as something more bounded and passive. If we reach the 'gap' represented by the paralysis of Buridan's Ass (immobile but hungry before two identical piles of hay), our resolution of the dilemma by opting arbitrarily for the left pile of hay (or chips) comes as a surprise to us, as well as to the spectators. The correct solution seems to be the acceptance of determinism, and a recognition that neither science, nor phenomenology, nor metaphysics can offer adequate support for full "freedom".

Is this the catastrophe secretly dreaded by the 'neo-dualists'? For anyone who aspired to be a god it is a setback, but most of us are now happy to settle for the status of being the most impressive animal in the known universe. The real pressing issue seems to be moral responsibility. How can someone be responsible if they are not utterly free to make choices?

Aristotle's length discussion²¹ charts the many dimensions of freedom which all appear to be necessary for moral responsibility, and he has no real intimations of the threats of determinism. The most illuminating discussion, though, is by David Hume²², who cheerfully embraces determinism (roughly on the grounds that people are strikingly predictable in their behaviour), but nevertheless offers a defence of 'responsibility'. The essence of this is very simple. Traditionally we have two concepts of responsibility: causal and personal. Lightning is causally 'responsible' for damaging a tree, but if a vandal damages the tree we have a different concept of 'responsible', which permits blame.

In the case of lightning we are willing to track into the past the chain of causation that preceded the lightning, but we are reluctant to do this with the vandal. We seem to need the metaphysical 'uncaused cause' in order to justify our blame. To look for the causes of the vandal's behaviour seems to be a search for excuses for wickedness, and to undermine our moral commitments.

Hume's solution is to collapse the two types of 'responsible' into one. We simply say that a person is 'responsible' for an action if they caused it, and we only treat such actions differently because they are caused by a very distinctive thing - a human person - another item like ourselves. Hume then has the problem of distinguishing between actions for which people *are* held 'responsible', such as theft, and actions for which 'responsibility' seems diminished or absent, such as kleptomania. His solution is to attribute normal human responsibility to those actions which are fully caused by the 'character', which is presumably the centre of a healthy and mature consciousness. Actions which can be excused arise from illness, or immaturity, or from peripheral aspects of consciousness, such as sleep-walking. So far this is promising, but Hume is implying:

'moral responsibility' occurs when the core of consciousness ('character') in a human person is the direct cause of an action.

¹⁷ Searle (1992)

¹⁸ 'The Laws' 428b

¹⁹ Searle (1999, Ch.8)

²⁰ Hobbes (1651, §8)

²¹ 'Ethics' (books 3 & 6)

²² 'Enquiries' (book 6)

We can go on to deal in blame and punishment or their opposites simply because the cause of the action is a very distinctive thing (a person), the behaviour of which can be influenced the reasoning and training (unlike lightning). However, Hume's whole picture depends on a person having a 'character', which is the core of a healthy consciousness. This has to be equated with the "self" which John Searle required to oversee decision-making in the 'gap' just before action. But Hume is famous²³ for his heroic efforts to formulate a strictly empiricist account of personal identity, which started as flat scepticism, progressed to an associationist theory based on 'resemblance, contiguity and causation' links between ideas to form a coherent whole, and ended in failure, with the admission that no account of a stable core to consciousness could be generated by the theory. Presumably, as so often (with induction, for example), Hume is left with a "natural belief" in some sort of self or character, but with no theory to give the belief confidence. A drift away from a true commitment to the Self seems inevitable, starting with his label of the self as a mere "bundle", and probably moving towards Dennett's 'instrumental' account. For Dennett, such things as free will and personal identity do not exist, but result from the 'intentional stance' we take to other people, which seems to be a mere fiction generated because we have a social need to blame or punish.

Hume's account of personal responsibility needs a self. For the human institutions of morality to make sense within a purely causal framework, the causal source of distinctively moral actions must have a unique status. We treat these special sources very differently from inanimate causes of events.

Modern brain research, rather to the surprise of traditional empiricists, is homing in on exactly the sort of central control required. Particular and precise localities in the frontal lobes are being identified²⁴ which operate as controllers, and the concept of a 'core' to the mind seems required to explain observed processes²⁵. Even the smallest animals (such as rats) have a 'proprioceptive' awareness (of their own body) which is a focus of self-interest. This will not entail a transcendental ego which is timeless and potentially immortal, so an afterlife is not being offered, and nor is justification for anger at a twenty-year-old who committed a heinous crime when they were ten, but it does seem to be enough to fill the hole in Hume's account (by giving something to cause moral actions), and to be the source of the final cause of an action in Searle's 'gap'.

The account which seems to inevitably emerge from this sequence of thought is sufficient to allay the fears of 'neo-dualists', and I would suggest that a belief in a consciousness, in which a core Self generates characteristic actions, and in which very free thinking can occur which pays full attention to evidence and reasons, is a sufficient mental basis on which to build a moral theory based on the concept of virtues. The basic proposal is that type-type physicalism is correct. This will make possible the closure of physics (in principle), which will not allow a plausible space for spiritual, religious or dualist accounts of reality, but will allow a thorough-going account of moral life, which becomes the study of actions caused by the self at the heart of a fully conscious, mature and healthy person. For robots and aliens to join in with moral life they will need to be conscious, and the consciousness will need a core which has final control over the causing of actions by the whole creature. If evolution has produced dynamically flourishing life on other planets, that is *exactly* how I would expect the alien creatures to be.

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²³ 'Treatise' (I.v.iii and appendix)

²⁴ Rita Carter (2000)

²⁵ Edelman and Tononi (1998)