

Uma Geografia das Posições em Filosofia da Mente

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Part II: The irreducibility of consciousness; Chapter 4: Naturalistic dualism [161] § 5. The Logical Geography of the Issues

The argument for my view is an inference from roughly four premises:

1. Conscious experience exists.
2. Conscious experience is not logically supervenient on the physical.
3. If there are phenomena that are not logically supervenient on the physical facts, then materialism is false.
4. The physical domain is causally closed.

Premises (1), (2), and (3) clearly imply the falsity of materialism. This, taken in conjunction with premise (4) and the plausible assumption that physically identical beings will have identical conscious experiences, implies the view that I have called natural supervenience: conscious experience arises from the physical according to some laws of nature, but is not itself physical. The various alternative positions can be catalogued according to whether they deny premises (1), (2), (3), or (4). Of course, some of these premises can be denied in more than one way.

Denying premise (1):

- i. *Eliminativism*. On this view, there are no positive facts about conscious experience. Nobody is conscious in the phenomenal sense.

Denying premise (2):

Premise (2) can be denied in various ways, depending on how the entailment in question proceeds – that is, depending on what sort of physical properties are centrally responsible for entailing consciousness. I call all of these views “reductive materialist” views, as they all suppose an analysis of the notion of consciousness that is compatible with reductive explanation.

- ii. *Reductive functionalism*. This view takes consciousness to be conceptually entailed by the physical in virtue of functional or dispositional properties. On this view, what it means for a state to be conscious is for it to play a certain causal role. In a world physically identical to ours, all the relevant causal roles would be

played, and therefore the conscious states would all be the same. The zombie world is therefore logically impossible.

- iii. *Nonfunctionalist reductive materialism*. On this view, the facts about consciousness are conceptually entailed by the physical facts in virtue of some nonfunctional property. Possible candidates might include biochemical and quantum properties, or properties yet to be determined.
- iv. *New-physics materialism*. According to this view, we have no current idea of how physical facts could explain consciousness, but [162] that is because our current conception of physical facts is too narrow. When one argues that a zombie world is logically possible, one is really arguing that all the fields and particles interacting in the spacetime manifold, postulated by current physics, could exist in the absence of consciousness. But with a new physics, things might be different. The entities in a radically different theoretical framework might be sufficient to entail and explain consciousness.

Denying premise (3):

- v. *Nonreductive materialism*. This is the view that although there may be no logical entailment from the physical facts to the facts about consciousness, and therefore no reductive explanation of consciousness, consciousness *just is* physical. The physical facts “metaphysically necessitate” the facts about consciousness. Even though the idea of a zombie world is quite coherent, such a world is metaphysically impossible.

Denying premise (4):

- vi. *Interactionist dualism*. This view accepts that consciousness is non-physical, but denies that the physical world is causally closed, so that consciousness can play an autonomous causal role.

Then there is my view, which accepts premises (1), (2), (3), and (4):

- vii. *Naturalistic dualism*. Consciousness supervenes naturally on the physical, without supervening logically or “metaphysically”.

There is also an eighth common view, which is generally underspecified:

- viii. *Don't-have-a-clue materialism*. “I don't have a clue about consciousness. It seems utterly mysterious to me. But it must be physical, as materialism must be true.” Such a view is held widely, but rarely in print (although see Fodor 1992).

To quickly summarize the situation as I see it, option (i) seems to be manifestly false; (ii) and (iii) rely on false analyses of the notion of consciousness and therefore change the subject; (iv) and (vi) place large and implausible bets on the way that physics will turn out, and also have fatal conceptual problems; and (v) either makes an invalid appeal to Kripkean *a posteriori* necessity or relies on a bizarre metaphysics. I have a certain amount of sympathy with (viii), but it presumably must eventually reduce to some more specific view, and none of these seem to work. This leaves (vii) as the only tenable option.

More slowly, starting with options (iv) and (vi): option (vi), interactionist dualism, requires that physics will turn out to have gaps that can be filled [163] by the action of a nonphysical mind. Current evidence suggests that this is unlikely. Option (iv) requires that the shape of physics will be transformed so radically that it could entail facts about conscious experience; but nobody has an idea of how *any* physics could do this. Indeed,

given that physics ultimately deals in structural and dynamical properties, it seems that all physics will ever entail is more structure and dynamics, which (unless one of the other reductive options is embraced) will never entail the existence of experience.

The deepest reason to reject options (iv) and (vi) is that they ultimately suffer from the same problem as a more standard physics: the phenomenal component can be coherently subtracted from the causal component. On the interactionist view, we have seen that even if the nonphysical entities have a phenomenal aspect, we can coherently imagine subtracting the phenomenal component, leaving a purely causal/dynamic story characterizing the interaction and behavior of the relevant entities. On the new physics view, even if it explicitly incorporates phenomenal properties, the fact that these properties are *phenomenal* can play no essential role in the causal/dynamic story; we would be left with a coherent physics even if that aspect were subtracted. Either way, the dynamics is all we need to explain causal interactions, and no set of facts about dynamics adds up to a fact about phenomenology. A zombie story can therefore still be told.

Various moves can be made in reply, but each of these moves can also be made on the standard physical story. For example, perhaps the abstract dynamics misses the fact that the nonphysical stuff in the interactionist story is intrinsically phenomenal, so that phenomenal properties are deeply involved in the causal network. But equally, perhaps the abstract dynamics of physics misses the fact that its basic entities are intrinsically phenomenal (physics characterizes them only extrinsically, after all), and the upshot would be the same. Either way, we have the same kind of explanatory irrelevance of the intrinsic phenomenal properties to the causal/dynamic story. The move to interactionism or new physics therefore does not solve any problems inherent in the property dualism I advocate. At the end of the day, they can be seen as more complicated versions of the same sort of view.

As for option (iii), the most tempting version is the one that gestures toward unknown properties that we have so far overlooked as the key to the entailment. But ultimately the problem is the same: physics only gives us structure and dynamics, and structure and dynamics does not add up to phenomenology. The only available properties would seem to be those characterizing physical structure or function, or properties constructed out of the two. But structural properties are obviously inappropriate analyses of the concept of experience, and functional properties are not much better (although I consider them below). Any view of this sort will ultimately change the subject. [164]

This leaves options (i), (ii), (v), and (vii), which correspond to the options taken most seriously in the contemporary literature: eliminativism, reductive functionalism, nonreductive materialism, and property dualism. Of these I reject option (i) as being in conflict with the manifest facts. Perhaps an *extraordinary* argument could establish that conscious experience does not exist, but I have never seen an argument that comes remotely close to making this case. In the absence of such an argument, to take option (i) is simply to evade the problem by denying the phenomenon.

Option (v) is often attractive to those who want to take consciousness seriously and also retain materialism. But I have argued that it simply does not work. The nonreductive materialism advocated by Searle turns out to have internal problems and collapses into one of the other views (most likely property dualism). Other proponents of this view rely on an appeal to Kripke's *a posteriori* necessity, but the sort of *a posteriori* necessity demonstrated by Kripke cannot save materialism. The only consistent way to take option (v) is to appeal to a strong *a posteriori* necessity that goes well beyond Kripke's, and to

invoke brute constraints on the space of “metaphysically possible” worlds. We have seen that there is no reason to believe in such constraints, or to believe in such a third, intermediate grade of the possibility of worlds. This metaphysics gains no support from any other phenomena, and it is hard to see how it *could* be supported.

Even if this metaphysics of necessity is accepted, for most explanatory purposes the view ends up looking like the view I advocate. It implies that consciousness cannot be reductively explained. It implies that conscious experience is explanatorily irrelevant to the physical domain. And it implies that a theory of consciousness must invoke bridging principles to connect the physical and phenomenal domains, principles that are not themselves entailed by physical laws. This view calls these principles “metaphysically necessary”, but for all practical purposes the upshot is the same. This sort of theory will have the same *shape* as the dualist theories I advocate, and almost everything I say in developing a nonreductive theory in the next few chapters will apply equally here.

Option (ii), reductive functionalism, is the most serious materialist option. Leaving aside various wild options, if materialism is true, then consciousness is logically supervenient, and the only remotely reasonable way for it to be logically supervenient is via a functional analysis. On this view, then, all it *means* for something to be a conscious experience is for it to play a certain causal role in a system. Phenomenal properties are treated exactly the same way as psychological properties, such as learning or categorization.

The problem with this view, of course, is that it misrepresents what it means to be a conscious experience, or to be conscious. When I wonder whether other beings are conscious, I am not wondering about their abilities or their internal mechanisms, which I may know all about already; I am [165] wondering whether there is something it is like to be them. This point can be supported in various familiar ways. One way is to note that even once we have explained various functional capacities, the problem of explaining experience may still remain. Another rests on the observation that we can imagine any functional role being played in the absence of conscious experience. A third derives from the fact that knowledge of functional roles does not automatically yield knowledge of consciousness. There are also the objections, made earlier, that a functionalist analysis cannot account for the semantic determinacy of attributions of consciousness and that it collapses the conceptual distinction between consciousness and awareness.

At the end of the day, reductive functionalism does not differ much from eliminativism. Both of these views hold that there is discrimination, categorization, accessibility, reportability, and the like; and both deny that there is anything else that even needs to be explained. The main difference is that the reductive line holds that some of these explananda deserve the name “experience”, whereas the eliminative line holds that none of them do. Apart from this terminological issue, the substance of the views is largely the same. It is often noted that the line between reductionism and eliminativism is blurry, with reduction gradually sliding into elimination the more we are forced to modify the relevant concepts in order to perform a reduction. In allowing that consciousness exists only insofar as it is defined as some functional capacity, the reductive functionalist view does sufficient violence to the concept of consciousness that it is probably best viewed as a version of eliminativism. Neither is a view that takes consciousness seriously.

This leaves view (vii), the property dualism that I have advocated, as the only tenable option. Certainly it seems to be a consequence of well-justified premises. In some ways it is counterintuitive, but it is the only view without a fatal flaw. Some will find its

dualistic nature unpalatable; but I will argue shortly that dualism of this variety is not as unreasonable as many have thought, and that it is open to few serious objections. The biggest worry about this view is that it implies a certain irrelevance of phenomenal properties in the explanation of behavior, and may lead to epiphenomenalism, although this is not automatic. I will argue in the next chapter, however, that this explanatory irrelevance has no fatal consequences. Ultimately, this view gives us a coherent, naturalistic, unmysterious view of consciousness and its place in the natural order.

Type A, Type B, and Type C

Taking a broader view of the logical geography, we can say that there are three main classes of views about conscious experience. *Type-A* views hold that consciousness, insofar as it exists, supervenes logically on the physical, for broadly functionalist or eliminativist reasons. *Type-B* views accept that [166] consciousness is not logically supervenient, holding that there is no *a priori* implication from the physical to the phenomenal, but maintain materialism all the same. *Type-C* views deny both logical supervenience and materialism.

Type-A views come in numerous varieties – eliminativism, behaviorism, various versions of reductive functionalism – but they have certain things in common. A type-A theorist will hold that (1) physical and functional duplicates that lack the sort of experience that we have are inconceivable; (2) Mary learns nothing about the world when she first sees red (at best she gains an ability); and (3) everything there is to be explained about consciousness can be explained by explaining the performance of various functions. Archetypal type-A theorists include Armstrong (1968), Dennett (1991), Lewis (1966), and Ryle (1949). Others may include Dretske (1995), Rey (1982), Rosenthal (1996), Smart (1959), White (1986), and Wilkes (1984).

Type-B views, or nonreductive versions of materialism, usually fall prey to internal difficulties. The only type-B view that seems to be even internally coherent is the view that invokes strong metaphysical necessity in a crucial role. Taking this view, a type-B theorist must hold that (1) zombies and inverted spectra are conceivable but metaphysically impossible; (2) Mary learns something when she sees red, but that this learning can be explained away with a Loar-style analysis; and (3) consciousness cannot be reductively explained, but is physical nevertheless. The central type-B view has never received a definitive statement, but the closest thing to such a statement is given by Levine (1983, 1993) and Loar (1990). Others who appear to endorse physicalism without logical supervenience include Byrne (1993), Flanagan (1992), Hill (1991), Horgan (1984b), Lycan (1995), Papineau (1993), Tye (1995), and van Gulick (1992).

Type-C positions include various kinds of property dualism, in which materialism is taken to be false and some sort of phenomenal or protophenomenal properties are taken as irreducible. On such a view, (1) zombies and inverted spectra are logically and metaphysically possible; (2) Mary learns something new, and her knowledge is of nonphysical facts; and (3) consciousness cannot be reductively explained, but might be nonreductively explained in terms of further laws of nature. Type-C positions are taken by Campbell (1970), Honderich (1981), Jackson (1982), H. Robinson (1982), W. Robinson (1988), Sprigge (1994), and in the present work.

It is perhaps worth mentioning separately the position discussed earlier in which phenomenal properties are identified with the intrinsic properties of physical entities. This

sort of view is endorsed by Feigl (1958), Lockwood (1989), Maxwell (1978), and Russell (1927), and I have some sympathy with it myself. I include this as a version of type C, as it takes phenomenal or protophenomenal properties as fundamental, but it has its own metaphysical shape. In particular, it is more of a monism than the natural interpretation [167] of type C. Perhaps we can call this position type C', but I will usually include it under type C.

There are two main choice points between types A, B, and C. First, is consciousness logically supervenient (type A versus the rest)? Second, is physicalism true (type B versus type C)? Taking the second choice point first, I have little difficulty in rejecting type B. While it has the virtue of taking consciousness seriously, it relies on a metaphysics that is either incoherent or obscure, and one that is largely unmotivated; the main motivation is simply to avoid dualism at all costs. In the end, this view shares the same explanatory shape as type C, but with an added dose of metaphysical mystery. Type C is straightforward by comparison.

The central choice is the choice between type A and the rest. For myself, reductive functionalism and eliminativism seem so clearly false that I find it hard to fathom how anyone could accept a type-A view. To me, it seems that one could only accept such a view if one believed that there was no significant problem about consciousness in the first place. Nevertheless, experience indicates that almost one-third of the population are willing to accept a type-A position and do not budge. This indicates the Great Divide mentioned in the preface: the divide between views that take consciousness seriously and those that do not.

In many ways, the divide between type A and the others is deeper than that between type B and type C. The latter division involves relatively subtle issues of metaphysics, but the former involves some very basic intuitions. Even though type B and type A are both "materialist" views, type-B views are much closer to type-C views in their spirit. Both these views acknowledge the depth of the problem of consciousness where type-A views do not.

Ultimately, argument can take us only so far in settling this issue. If someone insists that explaining access and reportability explains everything, that Mary discovers nothing about the world when she first has a red experience, and that a functional isomorph differing in conscious experience is inconceivable, then I can only conclude that when it comes to experience we are on different planes. Perhaps our inner lives differ dramatically. Perhaps one of us is "cognitively closed" to the insights of the other. More likely, one of us is confused or is in the grip of a dogma. In any case, once the dialectic reaches this point, it is a bridge that argument cannot cross. Rather, we have reached a brute clash of intuitions of a sort that is common in the discussion of deep philosophical questions. Explicit argument can help us to isolate and characterize the clash, but not to resolve it.

At the beginning of this work, I said that my approach was premised on taking consciousness seriously. We can now see just what this comes to. To take consciousness seriously is to accept just this: that there is something interesting that needs explaining, over and above the performance of various [168] functions. This has the status of a *prima facie* premise that only an extremely strong argument could overturn. No argument that I have ever seen comes close to overturning the premise. Indeed, type-A theorists do not usually *argue* against the premise, but simply deny it. Conversely, beyond a certain point it is almost impossible to *argue for* the premise, any more than one can argue that conscious experience exists. At best, one can try to clarify the issues in the hope that enlightenment sets in.

With the issues clarified, readers can decide for themselves whether to take consciousness seriously. All I claim is that *if* one takes consciousness seriously, then property dualism is the only reasonable option. Once we reject reductive functionalism and eliminativism, it follows inexorably that consciousness is not logically supervenient on the physical. And once we reject logical supervenience, the path to property dualism is unswerving. Type-B views are popular, but do not appear to stand up to close philosophical scrutiny. The main metaphysical choice that remains open is whether to accept a standard type-C view or a type-C' view. This is not a question that we have to settle immediately – I do not have a settled opinion on it myself – but in any case, it follows either way that if we want to take consciousness seriously, we must admit phenomenal or protophenomenal properties as fundamental.

Some other views found in the philosophical literature do not fall explicitly into the framework I have outlined. With this framework in place, however, it is not hard to locate them and to analyze their problems. I briefly discuss nine such positions in the endnotes: biological materialism, physicalist-functionalism, psychofunctionalism, anomalous monism, representationalism, consciousness as higher-order thought, reductive teleofunctionalism, emergent causation, and mysterianism. [...]

Endnotes for Chapter 4

[375] 34. *Biological materialism.* A common view (Hill 1991; Searle 1992) is that consciousness is necessarily biological. On this view, materialism is true, but unconscious systems with the same functional organization as conscious systems are logically possible and probably even empirically possible. Once we have admitted the logical possibility of an unconscious functional isomorph of me, however, we must surely admit the logical possibility of an unconscious *biological* isomorph of me, as there is no more of a conceptual link from neurophysiology to conscious experience than there is from silicon. This view is therefore probably best seen as a version of property dualism, with consciousness as a further fact over and above the physical facts. If not, then at best it must be combined with an appeal to strong metaphysical necessity [376] in supporting the link between biochemistry and consciousness, inheriting all the problems with that view. [...]

35. *Physicalist-functionalism.* On this popular view (e.g., Shoemaker 1982), the property of having a conscious experience is a functional property, but that of having a *specific* conscious experience (a red sensation, say) is a neurophysiological property. On this view, inverted spectra between functional isomorphs are logically and perhaps empirically possible, but wholly unconscious functional isomorphs are not. But again, once we have accepted that an inverted functional isomorph is logically possible, we must also accept that an inverted *physical* isomorph is logically possible, as neurophysiology gives no more of a conceptual connection to a particular experience than does silicon. So once again, it seems that the physical facts do not determine all the facts, and some sort of property dualism follows. Again, physicalism can be maintained only by embracing the problematic notion of strong metaphysical necessity. [...]

36. *Psychofunctionalism.* On this view, mental properties are identified with functional properties *a posteriori*, on the basis of their roles in a mature empirical psychology (see Block 1980). If this view applied to phenomenal properties, phenomenal notions would have the same secondary intensions as functional notions, despite a

difference in primary intension. The problems with this position are best analyzed along the lines suggested in section 2; that is, by focusing on primary intensions. If the primary intension of phenomenal notions is itself functional, then the position is underwritten by some sort of analytic functionalism after all; but if it is not, then focusing on the property introduced by this intension will invariably lead us to a variety of dualism. Either way, this view does no further work in saving materialism. [...] [377]

37. *Anomalous monism*. On this view, each mental state is token-identical to a physical state, but there are no strict psychophysical laws. Anomalous monism was put forward by Davidson (1970) as an account of intentional states rather than phenomenal states, but it might still be thought relevant for two reasons: first, it offers an *a priori* argument for physicalism based simply on the causal interaction (even a one-way interaction) between physical and mental states, and second, it denies the psychophysical laws that my view requires. [...]

38. *Representationalism*. A recently popular position (e.g., Dretske 1995; Harman 1990; Lycan 1996; Tye 1995) has been that phenomenal properties are just *representational* properties, so that yellow qualia are just perceptual states that represent yellow things, or something similar. Of course the interpretation of this suggestion depends on just what account is given of representational properties in turn. Most often, the suggestion is combined with a reductive account of representation (usually a functional or teleofunctional account), in which case it becomes a variant of reductive functionalism and meets the usual problems. A nonreductive account of representation might avoid these problems (though it might have others), but would lead to a nonreductive account of experience. [...] [378]

39. *Consciousness as higher-order thought*. The proposal that a conscious state is one that is an object of a higher-order thought (see e.g., Rosenthal 1996, among others) can be treated in a similar way. If this is combined with a reductive view of what it is to have a higher-order thought, this is essentially a reductive functionalist view with the usual problems. If not, then it will lead to a nonreductive view of experience (type B or type C), and so is compatible with the property dualism I suggest, although it may have other problems (as I discuss in Chapter 6).

40. *Reductive teleofunctionalism*. It is worth mentioning the view of Dretske (1995), on which a teleological component is also included in the criteria for having an experience: To have experiences, not only must a system function in a certain way, but the relevant processes must have been selected for appropriately in their history. This position is said to be able to avoid some of the problems of standard functionalism, in that for example it allows for (and explains) the possibility of functionally identical zombies: these are just systems with the wrong history. But it suffers from its own versions of the central problems. For example, it seems no less logically possible that a functionally identical system with the relevant history could lack consciousness; likewise, knowledge of organization plus history fails to give one knowledge of experience. One might say that this view “avoids” the problems with reductive functionalism in the wrong sort of way. Ultimately this view is closer in flavor to a type-A reductive functionalist view than to a view that takes consciousness seriously.

41. *Emergent causation*. Many have wanted to reject a reductive account of consciousness while giving it a central causal role. A popular way to do this has been to argue for emergent causation – the existence of new sorts of causation in physical systems of a certain complexity. For example, Sperry (1969, 1992) has argued that consciousness is an emergent property of complex systems that itself plays a causal role; the British

emergentists such as Alexander (1920) held a similar view (see McLaughlin 1992 for discussion). Similarly, Sellars (1981; see also Meehl & Sellars 1958) suggested that new laws of physical causation might come into play in certain systems, such as those made of protoplasm or supporting sentient beings. (He called this view “physicalism₁”, as opposed to “physicalism₂” on which the basic physical principles found in inorganic matter apply across the board.) These views should not be confused with the “innocent” view of emergent causation found in complex systems theory, on which low-level laws yield qualitatively novel behavior through interaction effects. On the more radical view, there are new fundamental principles at play that are not consequences of low-level laws. [...] [379]

42. *Mysterianism*. Those unsympathetic to reductive accounts of consciousness often hold that consciousness may remain an eternal mystery. Such a view has been canvassed by Nagel (1974) and Jackson (1982) and developed by McGinn (1989). On this view, consciousness may be as far beyond our understanding as knowledge of astronomy is beyond sea slugs.

[References]

- Alexander, S. 1920. *Space, Time, and Deity*. London: Macmillan.
- Armstrong, D. M. 1968. *A Materialist Theory of the Mind*. London: Routledge and Kegan Paul.
- Block, N. 1980. What is functionalism? In N. Block, ed., *Readings in the Philosophy of Psychology*. Vol. 1. Cambridge, Mass.: Harvard University Press.
- Byrne, A. 1993. The emergent mind. Ph.D. diss., Princeton University.
- Campbell, K. K. 1970. *Body and Mind*. New York: Doubleday.
- Davidson, D. 1970. Mental events. In L. Foster and J. Swanson, eds., *Experience and Theory*. London: Duckworth.
- Dennett, D.C. 1991. *Consciousness Explained*. Boston: Little, Brown.
- Drestske, F.I. 1995. *Naturalizing the Mind*. Cambridge, Mass.: MIT Press.
- Feigl, H. 1958. The “mental” and the “physical”. In H. Feigl, M. Scriven, and G. Maxwell, eds., *Concepts, Theories, and the Mind-Body Problem*. Minnesota Studies in the Philosophy of Science, vol. 2. Minneapolis: University of Minnesota Press.
- Flanagan, O. 1992. *Consciousness Reconsidered*. Cambridge, Mass.: MIT Press.
- Fodor, J.A. 1992. The big idea: Can there be a science of mind? *Times Literary Supplement*, July 3, pp. 5-7.
- Harman, G. 1990. The intrinsic quality of experience. *Philosophical Perspectives* 4: 31-52.
- Hill, C. S. 1991. *Sensations: A Defense of Type Materialism*. Cambridge: Cambridge University Press.
- Honderich, T. 1981. Psychophysical law-like connections and their problems. *Inquiry* 24: 277-303.
- Horgan, T. 1984b. Jackson on physical information and qualia. *Philosophical Quarterly* 34: 147-83.
- Jackson, F. 1982. Epiphenomenal qualia. *Philosophical Quarterly* 32:127-36.
- Levine, J. 1983. Materialism and qualia: The explanatory gap. *Pacific Philosophical Quarterly* 64: 354-61.
- . 1993. On leaving out what it’s like. In M. Davies and G. Humphreys, eds., *Consciousness: Psychological and Philosophical Essays*. Oxford: Blackwell.
- Lewis, D. 1966. An argument for the identity theory. *Journal of Philosophy* 63:17-25.
- Loar, B. 1990. Phenomenal states. *Philosophical Perspectives* 4: 81-108.

- Lockwood, M. 1989. *Mind, Brain, and the Quantum*. Oxford: Blackwell.
- Lycan, W.G. 1995. A limited defense of phenomenal information. In T. Metzinger, ed., *Conscious Experience*. Paderborn: Schöningh.
- . 1996. *Consciousness and Experience*. Cambridge, Mass.: MIT Press.
- Maxwell, G. 1978. Rigid designators and mind-brain identity. In C. W. Savage, ed., *Perception and Cognition: Issues in the Foundations of Psychology*. Minnesota Studies in the Philosophy of Science, vol. 9. Minneapolis: University of Minnesota Press.
- McGinn, C. 1989. Can we solve the mind-body problem? *Mind* 98: 349-66.
- McLaughlin, B. P. 1992. The rise and fall of the British emergentists. In A. Beckermann, H. Flohr, and J. Kim, eds., *Emergence or Reduction? Prospects for Nonreductive Physicalism*. Berlin: De Gruyter.
- Meehl, P.E., and W. Sellars. 1956. The concept of emergence. In H. Feigl and M. Scriven, eds., *The Foundations of Science and the Concept of Psychology and Psychoanalysis*. Minnesota Studies in the Philosophy of Science, vol. 1. Minneapolis: University of Minnesota Press.
- Nagel, T. 1974. What is it like to be a bat? *Philosophical Review* 4:435–50.
- Papineau, D. 1993. *Philosophical Naturalism*. Oxford: Blackwell.
- Rey, G. 1982. Areason for doubting the existence of consciousness. In R. Davidson, S. Schwartz, and D. Shapiro, eds., *Consciousness and Self-Regulation*. Vol 3. New York: Plenum.
- Robinson, Howard. 1982. *Matter and Sense*. Cambridge: Cambridge University Press.
- Robinson, William S. 1988. *Brains and People: An Essay on Mentality and Its Causal Conditions*. Philadelphia: Temple University Press.
- Rosenthal, D. M. 1996. A theory of consciousness. In N. Block, O. Flanagan, and G. Güzeldere, eds., *The Nature of Consciousness*. Cambridge, Mass.: MIT Press.
- Russell, B. 1927. *The Analysis of Matter*. London: Kegan Paul.
- Ryle, G. 1949. *The Concept of Mind*. London: Hutchinson.
- Searle, J.R. 1992. *The Rediscovery of the Mind*. Cambridge, Mass.: MIT Press.
- Sellars, W. 1981. Is consciousness physical? *Monist* 64: 66-90.
- Shoemaker, S. 1982. The inverted spectrum. *Journal of Philosophy* 79: 357-81.
- Smart, J. J. C. 1959. Sensations and brain processes. *Philosophical Review* 68: 141-56.
- Sperry, R. W. 1969. Amodified concept of consciousness. *Psychological Review* 76: 532-36.
- . 1992. Turnabout on consciousness: a mentalist view. *Journal of Mind and Behavior* 13: 259-80.
- Sprigge, T.L.S. 1994. Consciousness. *Synthese* 98: 73-93.
- Tye, M. 1995. *Ten Problems of Consciousness*. Cambridge, Mass.: MIT Press.
- van Gulick, R. 1992. Nonreductive materialism and the nature of intertheoretical constraint. In A. Beckermann, H. Flohr, and J. Kim, eds., *Emergence or Reduction? Prospects for Nonreductive Physicalism*. Berlin: De Gruyter.
- White, S. L. 1986. Curse of the qualia. *Synthese* 68: 333-68.
- Wilkes, K. V. 1984. Is consciousness important? *British Journal for the Philosophy of Science* 35: 223-43.