

Parallelism, Interactionism, and Causation

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One may gather from the arguments of two of the last papers¹ published before his death that J. L. Mackie held the following three theses concerning the mind/body problem:

- (1) There is a distinct realm of mental properties, so a dualism of properties at least is true and materialism false.
- (2) All bodily movements probably have sufficient causes in physical facts and properties, but mental facts and properties are not causally irrelevant to human action.
- (3) At the same time, the view that there are not sufficient causes in the physical realm alone for all bodily movements has no good and adequate empirical or philosophical reasons against it.

In this paper I wish (1) to register my strong agreement with the first thesis by way of simply taking it for granted, (2) to defend the second thesis in greater detail and in a manner somewhat different from Mackie's, and (3) to show the third thesis to be false.

I

If a dualism of properties is true, there are fundamentally three abstract possibilities: the mental properties are related to the crucial physical properties by (1) laws of coexistence, (2) laws of succession, or (3) no laws at all. These views may reasonably be labeled as (1) *parallelism*, (2) *interactionism*, and (3) *fatalism*, respectively. Although there have been people who, crippled by their theological commitments, have thought they believed in fatalism, it is phenomenological absurdity to maintain that what one desires or chooses or values never *makes a difference* to one's behavior; and no one ever acts that way either (whatever it could

possibly be to act as if one's mental life made no difference to one's behavior). That leaves only parallelism and interactionism as realistic contenders for the dualist's allegiance.

But are parallelism and interactionism, as characterized above, really exhaustive of the remaining possibilities? What about a theory according to which some mental properties are tied by laws of coexistence while others are tied by laws of succession to the crucial physical properties? My reply is that if any mental properties are tied to the physical world *essentially* by laws of succession, then the view of the interactionist is correct. The reason is that in such a case the physical world is not *causally closed*, and the issue between the parallelist and the interactionist is really just the question of whether or not that is so. So it is time to explain clearly what is meant by saying of a system that it is causally closed.²

Assume that determinism is true. Eventually I shall remove the assumption, but it makes it easier to state the basic ideas initially. Determinism is the thesis that for every occurrence or state of affairs in the past and present and future of the universe, there exists some earlier occurrence(s) or state(s) of affairs that is lawfully sufficient for its occurrence at the time at which it in fact occurs. Otherwise put, determinism is the thesis that identical conditions not acted on from without produce of lawful necessity identical consequences. Citing a lawfully sufficient condition for a given occurrence as well as the relevant law(s) is to provide a *full explanation* of that occurrence. (I say this stipulatively and do not thereby rule out other kinds of explanations of occurrences—by *reasons* or *dispositions* or *constituents* or whatever.)

It is evident then that a given occurrence will have more than one full explanation if, for example, the occurrence of either the set of properties *a*, *b*, and *c* or the set *a*, *b*, and *d* is lawfully sufficient for that occurrence. This will be so for one reason if *c* and *d* are themselves bound by a law of coexistence such that the occurrence of either lawfully implies the simultaneous occurrence of the other. To put the idea somewhat more informally: the fact that one has found a full explanation for some occurrence in the sense stipulated does not imply that the occurrence or nonoccurrence of anything else is lawfully irrelevant, especially insofar as that something else is itself lawfully related to that which is offered originally in explanation.

A *kind of system* is specified by listing the properties (or variables, as some say) that are taken to characterize the kind of things in the system. A *particular system* is specified by additionally listing the names of or otherwise indicating all the particulars in it. A *state of the system* is specified by describing for an instant the *values* of each of the variables for each of the particulars of the system. A deterministic system is *causally closed* if for every state of the system there exists some earlier state of the system that is lawfully sufficient for its occurrence, that is, that given the laws of the system constitutes its full explanation. If one *must* go "outside" the system to properties³ that are not part of it (or of its kind) to obtain a full lawful explanation of any occurrence in the system, then the system is not causally closed. Notice here for later reference the use of 'must' rather than 'may'

in the last sentence: a system's being causally closed does *not* preclude the possibility of legitimately citing some occurrence "outside" the system as at least part of the full explanation of some occurrence within the system. If *a*, *b* and *c* are within a system and (some values of them) are advanced correctly as a full explanation of (some value of) *e*, which is also within the system; and if further (the values of) *c* is (are) tied by a strict law of coexistence to (the values of) *d*, which is "outside" the system, then *a*, *b*, and *d* also constitute a full explanation of *e*. Thus my use of 'must' rather than 'may'.

It will now easily be seen that the general idea of a causally closed system can be captured even when the system is nondeterministic provided that we allow some nonformalized notion of "degree of explanation" into our thinking. If for some occurrences in the system there do not exist any full explanations (that is, these occurrences have no lawfully sufficient antecedent conditions no matter what is taken into account either within or without the system), then the system is causally closed but not deterministic if whatever degree of explanation those occurrences do admit of can be found within the system. This circumstance too does not preclude the possibility of occurrences or properties outside the system being legitimately cited in an explanation of some occurrences within the system.

Before I use these ideas to attempt a precise characterization of parallelism and interactionism, one preliminary remains. Even the dualist, such as myself, agrees that some of the properties that are commonly called mental are (also) physical properties.⁴ But since the theses of the parallelist and interactionist apply crucially to ("occurrent") conscious mental states, it is desirable for analytic purposes to treat as mental properties only those that are exemplified by such states and to consider all other properties as physical. So doing, we may now say that contemporary parallelism and interactionism consist of the following propositions, respectively:

Parallelism

- (1) Mental properties and physical properties constitute exclusive and exhaustive sets of the properties of the universe.
- (2) The physical world is causally closed.
- (3) The mental world is *not* causally closed.
- (4) Every mental property is tied to some physical property (or disjunction of physical properties) by a law of coexistence.

Interactionism

- (1') Mental properties and physical properties constitute exclusive and exhaustive sets of the properties of the universe.
- (2') The physical world is *not* causally closed.
- (3') The mental world is *not* causally closed.
- (4') At least some mental properties are tied to physical properties *only* by laws of succession.

Three comments on these characterizations are necessary before I turn to evaluation of the views.

First, probably the most famous parallelist of all, at least on one reasonable

interpretation of his words, denied (3) explicitly and possibly (4) as well. In short, this philosopher held that the realm of the mental is also of such a scope that everything that happens in it has a full explanation by some other occurrence(s) in it. Whether Spinoza should really be treated as holding (4) when he explicitly insists that the connection is one of *perception*, we need not bother with. In any case, the contemporary parallelist need not, nor to my knowledge does any, hold that the mental is of such a scope. But (3) of course implies (given also [1], it must be added) the *necessity* of the physical in the explanation of the mental. Since therefore this “parallelism” is by no means a simple, one/one connection (and I shall weaken it further a few sentences hence), one may wish to question the propriety of the label. And further, since this implication of the *asymmetry* of the relation of the mental to the physical in general seems to suggest that the physical *causes* the mental but never the other way around, some may ask why we don’t forthrightly admit that parallelism so-called is really epiphenomenalism and be done with it? For the moment, however, I wish to characterize the alternatives of what I shall continue to call parallelism and interactionism only in terms of the kinds of lawful connection that each involves and, despite my use of ‘causally closed’, reserve all questions of *causation* in the relation of the mental to the physical until later. This way of proceeding, despite its rarity in the literature, is, I am convinced, the more fruitful in grasping clearly what is involved.

Second, it is important to see that my use of ‘only’ in (4’) above is not superfluous: if every mental property is related by a law or coexistence to some physical property, then whatever laws of succession may *also* apply to the system, the physical world is causally closed and parallelism is true. For, at any point at which one might cite some mental occurrence in the explanation of some later physical occurrence, there will always be a lawfully simultaneous physical occurrence that can serve instead. But the interactionist insists that some physical occurrences *require* mention of the mental in their full (or maximally possible) explanations, that there are “gaps” in the physical realm as far as the explanation of some occurrence in it is concerned. Hence the use of ‘only’.

Third, I have so far given the impression that the parallelist would hold or even must hold that the lawful correspondence of any given mental property to some physical property is one/one. It is now time to loosen this assumption and to understand clearly that the parallelist is not so bound, consistent with the four propositions that define the position; and that the parallelist can therefore allow for the possibility of different physical grounds for qualitatively identical states of consciousness. Given the asymmetry noted earlier—the physical but not the mental realm is causally closed—all that is required for parallelism is that the laws permit the “deduction” of the mental from the physical but not the other way around. In short, the parallelist may allow a many/one connection from body to mind, but not a one/many from body to mind nor, obviously, a many/many connection. This will always imply that two persons or any things or beings whatsoever that are in qualitatively identical physical states will have qualitatively identical mental states. Indeed, with this idea, the parallelist’s position may usefully be contrasted with the

interactionist's as follows: *the parallelist affirms and the interactionist denies the lawful impossibility of two persons or other beings or things being in the same physical state but having different mental states.* Putting the matter this way will permit me eventually to formulate a very serious objection to interactionism.

II

"Parallelism implies fatalism, and fatalism is absurd." That is, both historically and analytically, the most serious objection to parallelism. The objection goes that if the physical world is causally closed, as the parallelist claims, then it really makes no difference what goes on in a person's mind, what states of consciousness a person has, including the conscious states of desiring, willing, and so on; and that is fatalism. Surely, it may be said, if we are going to be dualists at all, we must also be interactionists in order, like the central-state materialists, to give the mind its proper explanatory role in human behavior. The materialist, to be sure, holds with the parallelist that the physical world is causally closed; but then, according to the materialist, that world is all the world there is and already includes whatever one may wish to call "mental." What should the parallelist say in response to the charge of holding a position that implies fatalism while surely agreeing that any view that implies fatalism is itself absurd?

Not only does parallelism *not* imply that it makes no difference what goes on in one's mind to one's behavior, but in fact implies just the opposite. If I did not have the mental state I now have, then by the law of coexistence that ties that mental state to some state of my brain, that brain state would not be occurring and so my behavior would be different, and so on. It is lawfully impossible, by the parallelist's very position, for that brain state to occur without that state of consciousness also occurring; and if someone wonders why, on the parallelist's view, the universe couldn't just as well have been exactly as it is physically but without the occurrence of any mental states at all, the answer is that the universe well *could* have been that way in the sense that its laws could have been different from what they are without contradiction, but that is not the way it in fact *is*. The way it *is* makes it lawfully impossible for me to write this essay without thinking about what I am doing, desiring to write it down, and so on, because unless those states of consciousness occur in me, the relevant brain states won't occur either.

None of this, however, contradicts the original assumption that the physical world is causally closed and that those brain states also have a full lawful explanation (or maximum degree of explanation) in the physical world alone. To make use once more of the abstract symbols for the sake of clarity: let *a*, *b*, and *c* be physical properties with *c* being the relevant brain state; let *d* be a mental property; and let *e* also be a physical property, the person's behavior. Then while, by assumption, *a*, *b*, and *c* jointly explain *e* (*a* and *b* perhaps being the state of the rest of the physical universe at the moment), so do *a*, *b*, and *d*. But *c* lawfully cannot occur unless *d* occurs since, also by assumption, they are tied together by a law of coexistence. Hence *e* will not occur (in the particular case: I have not assumed that *a*, *b*, and *c*

are lawfully *necessary* for the occurrence of *e*) unless *d* occurs. This also illustrates how the parallelist may say, at least consistently with what has been said so far, that *the* explanation of a person's behavior lies in his mental state insofar as everyone allows that a particular context permits one to cite but one of the factors of a set that only jointly are sufficient for any given occurrence.

Many other arguments have been made for and against parallelism and interactionism. Many of them, I believe, carry very little weight, such as: *direct* appeals to common sense, calling attention to various facts about evolution, arguments that involve the principle of the conservation of energy, and a priori arguments about the ontological possibility or impossibility of either view. I shall comment briefly on the first and the last of these matters, taking the latter first, however.

Without going into much detail, let it be said here that none of the positions mentioned so far—parallelism, interactionism, fatalism, and even materialism—is *ontologically* impossible. By this I mean that, consistent with the basic principles and findings of *general* ontology, the universe *could* have been as each view says it in fact is. The only amendment I would make to that stark claim concerns materialism: insofar as the materialist says simply that everything is physical, what he says involves no obvious ontological impossibility, Berkeley and some other idealists to the contrary notwithstanding. But insofar as the materialist maintains that mental properties are literally also physical properties, or that no properties exist (and, paradoxically, therefore no mental properties), or that only the basic properties of physics exist in a world that is given to sentient beings in that world as having many other properties as well, he does speak ontological nonsense. Fatalism's absurdity, as I said earlier, is phenomenological and not ontological: there *could* be a world with two lawfully unrelated sets of variables—the mental and the physical—with the noncausal ties of intentionality and time being the only "links" between members of the two sets. But experience shows conclusively that this is not our world. Finally, since I have defined parallelism and interactionism by way of the kinds of *lawful* connections that may hold between mental and physical *properties*, there should not be and is not any *ontological* difficulty with either view. That judgment does indeed presuppose something like a Humean ontological principle that between and among *simple* properties, any lawful connection or lack thereof whatsoever is possible, a principle which, although I shall not argue for it (I really wouldn't know how to argue for such a fundamental principle), I firmly believe is true.⁵ So no basis for choosing between parallelism and interactionism is to be found among the principles of ontology themselves.

It is a piece of true common sense, firmly grounded in the phenomenology of the relevant situations, that what happens to and in our bodies affects what goes on in our minds *and* also that what goes on in our minds affects what happens in and to our bodies. Call this, if you will, "commonsense interactionism." But we have already seen that parallelism can account for, and even requires, the fact that some of what happens in each realm make a difference to what happens in the other. Hence, commonsense interactionism is fully consistent with parallelism. So a *direct*

appeal to this kind of common sense as an argument for interactionism is simply a mistake. But how then shall we proceed in an evaluation of the relative merits of these two positions, one of which is almost certainly the truth about the relation of mind to body?

When one considers again a certain feature of the interactionist's view and investigates its implications, we find, I believe, good and adequate reasons for rejecting interactionism. Since there are no similarly good reasons for rejecting parallelism (although I still have the crucial matter of *causation* to deal with), we must conclude that it is rational to believe that parallelism is the truth. That feature of interactionism that leads to its difficulties is the fact that on it, any one of a *range*, perhaps an unlimited range, of mental states lawfully may accompany a given physical state whether the latter be a brain state or a behavioral state. Without this feature, which is shared with fatalism, the view is not interactionism but parallelism, that is, if the "range" is one. It is again the question of whether or not two physically identical persons could, lawfully, have different conscious states. What this feature of interactionism entails is that it is *not* calculable by the kinds of laws that the interactionist claims to hold between mental and physical variables what the state of a person's mind is from the states of his body.

To see this idea more clearly, consider the analogy of mechanics in which an interacting set of variables of mass, position, and velocity is such that given (the values of) any one or two of those variables for some object or objects, (the values of) the third remain unknown, and this independent of temporal relations. To apply the laws of succession that are the laws of mechanics, one must *independently* ascertain the values of all three variables at some time in order to calculate the present, past, or future values of any one variable (except, trivially, the value of the same variable in the same object at the same time). When we apply this consequence to the mind/body problem, it has grave consequences for interactionism, as we now shall see.

When anesthesiologists do their job correctly, they and everyone else assume that by putting the brain of the patient in a certain state, that patient's consciousness ceases temporarily. When a suspected criminal is given a lie detector test and it shows a certain pronounced pattern when certain questions are asked, both those involved and most others assume that when the suspect's body is in a certain state as shown by the machine, the suspect has the mental state of intending to deceive. When a parent gives a child a spanking, that parent and everyone else assume that the child has the mental state of feeling pain in its posterior. These facts, and innumerable others like them, are, I submit, incompatible with interactionism and intelligible only on parallelism if the assumptions involved are true. All of them presuppose that when the body is in a certain definite state, the mind is in a certain definite state. This general fact, which we may label as "commonsense parallelism," does support its philosophical namesake, parallelism, for, unlike the relation of commonsense interactionism to parallelism, *commonsense parallelism entails the falsity of interactionism*. Commonsense parallelism is in fact just the vaguely perceived

fundamental claim of the parallelist: that it is lawfully impossible for two persons who are in every respect physically alike to have qualitatively different mental states at that same moment. Same body, same mind.

The interactionist may try to avoid these damaging implications by limiting to a very narrow range the lawfully possible mental states that can accompany a given brain or other physical state; by stipulating that the members of the set of possible mental states that accompany a given brain state must be very similar to each other; by allowing that some but not all mental states or features of them are, after all, tied by strict laws of coexistence (which, again, may be many/one from body to mind) to properties of the physical world; or by some combination of the foregoing. Any such move would obviously be a significant step in the direction of parallelism proper.

Can the interactionist leave things there and be left with a defensible position? The answer, I suppose, is that it depends on how closely the interactionist comes to resemble the parallelist. But for an interactionism that remains strong enough to be of any interest and that has any sense of internal coherence (that is, is not modified just to meet every example on an ad hoc basis), there remains a very serious objection which is my fundamental argument against interactionism.

Common sense holds that each of us often knows not only that another person is conscious and awake but what in particular, at least in part, is, as we say, "going on" in that other person's mind. Common sense also realizes that, at nearly any moment, there may be more, even much more, going on in a person's mind than anyone else knows and that sometimes we have no good idea at all what the conscious state of another person at a certain time is. Finally, common sense also acknowledges what science likewise takes for granted, that the only access we have to the mind of another person is through the observation of that other person's body and the physical objects that he or she produces, such as books, works of art, conversations, and so on. Precise formulation of this idea is as difficult as it is unnecessary; however, the description of what we observe may be as sophisticated as and of whatever scope anyone wants, provided that it does not include the properties of conscious mental states as exemplified by anyone other than oneself.

Now ignoring the matter of the very existence of other minds, how on the interactionist's view could anyone ever know or even make a reasonable guess what another person is thinking? For, on this view, the fact that that person is in some particular bodily or behavioral state does not lawfully entail (or in any other way entail) that that person is in any specific mental state. Certainly we cannot *ask* the person what he or she is thinking, for taking the answer seriously would presuppose a connection of the coexistence kind between linguistic behavior and states of mind. (Thus the fact of communication and its presupposition that there is a systematic but not unbendable correlation between what a person *says*—in the sense of what sounds or marks are produced—and what a person *thinks* is another important aspect of commonsense parallelism, although this connection is, of course, not "natural" in the sense that one learns a language with all of its conventional aspects.) In

short, nothing I can observe about a person at a moment can give me even a clue as to what that person is thinking, if interactionism is true.

But, it may be said in reply, we don't ordinarily rely only on what we observe at the moment anyway in order to calculate or come to believe what is going on in another person's mind. We rely, varying widely as to the person and the sort of situation we are in and other factors, on shared and unshared cultural traditions, on what we know about human beings in general and what we know of the person's past in particular, and probably much more besides. So if the interactionist is forced to deny that we can simply "read off" what another person is thinking from any observation of only that person's roughly simultaneous physical properties in addition to knowledge of laws or lawlike generalizations, he too only affirms common-sense truth.

The parallelist, in retort, may immediately grant that while, according to his view, there exist laws that would in principle allow a person to calculate anyone's mental state from a full description of his bodily and especially his brain state, in fact we often come to know what other persons are thinking in the manner just described. Not only do we not know all (or perhaps any, strictly speaking) of the relevant laws, but actually determining the precise state of anyone's brain or body is factually impossible. *But*, the parallelist must insist, at certain crucial points and in certain crucial respects, we do know what is going on in another person's mind on the basis alone of simultaneous circumstances and knowledge of or belief in certain generalizations. As to what *causes* us to have such knowledge or beliefs, we may speculate that much of it is part of our genetic endowment; for example, taking certain gestures (bodily motions) as indicative of friendly intentions or of fear or of submission.

As to what *justifies* or could justify such knowledge and belief, something like the so-called argument from analogy *must* suffice. (But I do not argue here that, by some rigorous philosophical standard, we ever do know what is going on in another person's mind. I take for granted that we do, in any ordinary sense of "know", sometimes know what another person is thinking. My point is that interactionism entails the *impossibility* of any such knowledge, or even plausible guess.) I can know that another person is in pain on the basis of his behavior only if (1) I know from my own experience what pain is, and (2) I know from my own experience what behavior typically accompanies pain (which, of course, I may learn to inhibit; but that presupposes a natural accompaniment). Again, it is probable that we are "preprogrammed" to react in certain definite ways to "pain behavior" in others—to regard it with alarm, sympathy, and so on. It is difficult to understand how the species could survive when its newborns need such extended attention if it were otherwise, that is, all "learned." But this is irrelevant to the question of what, if anything, *could* justify the rationality of such reactions even if they are causally impossible not to have. But then *we cannot help but believe* that others have minds, are sometimes in pain, feel desire, and so on.

The reason that the parallelist must insist on the existence of certain crucial

situations of the kind in which one does virtually “read off” the other’s mental state from his behavior of the moment is in order to be able to avoid the same scepticism that the interactionist is necessarily faced with. Consider again the case of mechanics. Mass, position, and velocity constitute a set of interacting variables (properties). By assumption and in fact, the values of no one of those variables is, by any true law or generalization, calculable even within a certain range from the values of the other two either at the same time or any different time. In short, if I wish to make any reliable predictions about any future states of a system with respect to these properties, I must *independently* ascertain, that is, by separate observation of each, the values of *all three* variables at a time. The interactionist says, in effect, that a person “is” or “has” a set of interacting properties, some mental and some physical. But if another person can neither observe, and thereby independently ascertain, a state of another person’s mind at a time nor by any law of coexistence calculate that state from observation of the other person’s body (or anything else whatsoever), he could not possibly know or have the slightest good reason to believe that any other person is in any particular state of mind rather than any other, either at this moment or in the future. Nor, by the way, could he ever make any rational prediction about the future behavior of any other person. It would be comparable to trying to predict any of the future positions, velocities, or masses of some bodies on the basis of knowing only the present positions and velocities and the laws of mechanics—a sheer impossibility.

Now it is true that we sometimes, in fields of science that do not involve the mind, come to believe that there are unobservable properties that apparently interact with the properties we do observe and even that we can sometimes calculate the values of those variables. The most obvious example is atomic and subatomic physics. Would my argument, therefore, not be subject to the *reductio ad absurdum* that if it were sound, it would also prove the impossibility of atomic and subatomic physics?

The correct answer to this objection, probably already apparent to many readers, in fact strengthens my point and my argument. For any time a scientist wishes to *test* an hypothesis about the existence of an entity of a certain kind (that is, as having a certain property or set of properties), he must assume a connection of the *coexistence* kind between that entity as exemplifying certain properties and some feature of the world of everyday experience even if it be only a reading of a dial (with many intermediate steps, of course, each of which assumes a connection of the coexistence kind). Every *difference* that is to be knowable and therefore testable for in the realm of the nonobservable must be *paralleled* by some difference under *some* condition in the realm of the observable. We need not make this a condition of meaningfulness in order to insist that an hypothesis about causes (or apparently so, such as “God wills all”) that yields no concrete predictions about what, under any specifiable condition whatsoever, will occur in the realm of the observable is, at least as an *explanatory* account, idle and empty. But this, it now seems clear, is exactly the position each of us would be in, with respect to the contents of everyone else’s mind, if interactionism were true. Only parallelism even makes

possible the knowledge each of us supposes oneself to have about what is going on in the minds of others.

Parallelism therefore appears to be the only position that is in accord with common sense correctly understood, with the experience each of us has of himself or herself, and with any attempt of science to discover as precisely as it can those features of the brain and central nervous system that are correlated with, say, dreaming or doing mental mathematics or willing to wiggle one's ears. In its dualism, parallelism fully accepts the commonsense view confirmed by introspection that there are certain properties of the universe known to us only by introspection, that is, that there is a distinct set of mental properties, while in its parallelism proper, it and only it satisfies the requirements of common sense, inner experience, and science.

III

There remains the matter of causation. I call the reader's attention more fully now to my conscious design to leave this matter until last in a discussion of the present issue in the belief that much contemporary discussion of the matter is flawed by a too hasty and unexamined introduction of causal (as opposed to merely lawful) notions into the argument. How often does one read that parallelism is patently absurd in denying any *causal* role to the mind in behavior and so may be safely and quickly dismissed from further consideration? Is it not, after all, the contention of the parallelist that every physical occurrence has a purely physical *cause*? Now we have already taken notice of the fact that while on the one hand parallelism may imply to some (as in fact Spinoza explicitly held) that each realm has only its own causes, the modern parallelist is certain to deny that the realm of the mental is in fact causally closed and therefore to insist that only the realm of the physical can complete the full explanation of occurrences in the realm of the mental. But since the parallelist also holds that the physical realm is causally closed, the ground is laid for the charge that the modern parallelist is really better called an epiphenomenalist and a believer in one-way causation from the physical to the mental. This is *not* simply to repeat the earlier objection based only on the lawful connections involved, but rather to insist that even granted that it is lawfully impossible for certain brain states to occur without certain mental states also occurring on parallelism, that is not to say that mental states ever *cause* any physical and especially any behavioral state. And what common sense and possibly morality require is just that — that by having certain mental states such as desiring or willing or choosing, we *cause* certain effects in the realm of the physical. Since the parallelist must deny that anything in the realm of the mental ever really causes anything in the realm of the physical, parallelism must be false. So charges the critic.

Causation is lawfulness plus context. That is my formula and my thesis. Clarifying it and defending it to some degree will at the same time allow me to defend parallelism against the charge that it denies some patent fact about the connection between mind and body. (So I do not take the line that some defenders of parallelism

have—that is merely an *illusion* that our mental states sometimes cause our behavioral states.)⁶ At the same time I do not propose to make an elaborate defense here of any particular account of causation but only to state briefly what the theory of causation involved is and how it can rescue parallelism from the charge.

If we begin by asking what lawfulness itself is, I have no new answer to that question. My view is that it is mere regular connection, understood to mean that a true law of nature is a generalization that does or would survive the tests of Mill's methods. That of course does *not* imply, contrary to the beliefs of some, that for two properties *A* and *B* to be lawfully connected, there must be a true law that connects them alone in some regular fashion, that is, as either "If *A*, then *B*" or "If *B*, then *A*" or "*A* if and only if *B*." *A* and *B* are lawfully connected in a law of the form "If *A* and *C*, then *B*," for example, which implies none of the three previous sentences. That is one qualification to the notion of "regular connection." Another is that since laws are best understood as not having existential import, a law may hold and even be importantly true of our universe even though it has no instantiations. Newton's first law, the law of inertial motion, may be an example. Then the "regular connection" is or may be hypothetical—what *would* occur if certain conditions *were* to obtain rather than what *does* occur when certain conditions *do* obtain. This distinction between the subjunctive and the indicative is the source of many familiar difficulties and disputes which, however, I shall not discuss here. I merely register my agreement with what I take to be the essential insight of Hume—that there is not, in anyone's experience, any additional *entity* such as a "necessary connection" to be included in the proper understanding of lawfulness or, now to move on, *causation*.

If, as the examples of many philosophers might show, we can in a sense "observe" a causal connection in the particular instance, such as when a rolling boulder smashes a hut (to repeat an example from the literature), nothing very important philosophically follows. We may be simply "preprogrammed" to take certain kinds of occurrences as instances of causal connections immediately, so to speak, rather than, as the regularity view might seem to suggest, only by realizing those occurrences to be instances of lawful connections. Indeed, the survival of the species would seem to require such "preprogramming" at least in the behavioral responses to such situations, if not also in their cognitive evaluation. The work of Chomsky, of the so-called sociobiologists, and of others such as the traditional ethologists has made it increasingly plausible to believe that certain beliefs that we have are partially "preprogrammed" in us in the sense that these beliefs, while possibly true and even rationally justifiable, come to be held on the basis of extremely slight evidence which, by the usual canons of induction, and at the time and by the means that they typically come to be held by a particular person, have an entirely inadequate foundation in the justificatory sense. It is easy to see, in the case of beliefs about causal connections, how, provided that it is biologically possible for it to be so, there could be considerable survival value in having the genetically based predisposition to have such beliefs under relatively "weak" circumstances. Observations such as these are in any case, I believe, the proper way to discount the otherwise

somewhat perplexing examples of the sort I mentioned. Negatively, these philosophers have as yet failed to make clear what additional entity of an ontologically interesting kind is supposed to be present in such experiences. It is this failure and not any utter lack of difficulty in the regularity view that makes the regularity theory the most plausible account of lawfulness and the ontology of causation.

But causation, I said, is lawfulness *plus context*. For, at least as we speak, not all lawful connections are causal connections. Which ones are, which not, and why? I believe that, despite the attempts of some philosophers to have a “theory” of what additional features must or must not be present in order that a certain lawful connection be a causal one, it is altogether a mistake for the philosopher to attempt any formal or systematic account of these features. Even the most commonly mentioned one of the temporal relation (as a necessary, not a sufficient, condition) of priority of cause to effect is reasonably disputable insofar as specification of contexts is largely a description of linguistic behavior (or, as some philosophers like to call it, “intuitions”). What remains therefore is to specify certain contexts that are relevant to talk about, or allusion to, the relation of mind to body. Specifying such contexts up to a certain point will, if I am successful, achieve the goal of reducing the charge against parallelism to a harmless one that can be lodged, once one sees through it all, against all of its alternatives as well—that the sense of the view seems incongruous with certain ways of speaking and thinking when, in a certain context, some features of the lawful situation are being treated as causal and others not while in a different context, the opposite or something like it might be true. I begin with the easier task, mainly in order to illustrate the idea of specifying contexts, of showing circumstances in which it would be natural to say that the physical is the cause of the mental but not the other way around.

Almost anyone can be caught in a frame of mind in which he or she will readily agree that while there can be lifeless and therefore “mindless” bodies, there cannot be disembodied minds. This view, which simply asserts the primacy of matter, is sometimes called philosophical materialism; but it might reasonably also be called “commonsense materialism,” provided that it is clearly seen that commonsense materialism does not entail absolute materialism, the theory that there is nothing non-physical. More specifically, we do believe (apart from religious and other even more unworthy motives) that while a brain can exist without a mind, a mind cannot exist without a brain or other, somehow comparably complex physical ground. This fact, or one’s awareness of it, provides a context for saying that while, on the parallelist’s view, a certain brain state lawfully cannot occur unless a certain mental state occurs simultaneously and even while, if the connection is many/one from body to mind, that mental state might occur under different physical conditions, the brain state is the *cause* of the mental state and not the other way around. Another, related context is provided by the fact just mentioned—the probable many/one relation of body to mind—which, given also the relevant laws, makes the mental *calculable* from the physical but not the other way around. And of course a third context has already been mentioned in formulating the objection—the claim of the modern parallelist that the physical realm but not the mental is causally closed with its

implication that the full (or maximally possible) lawful explanation of mental phenomena *requires* mention of the physical but not the other way around.

But all of this, while it identifies contexts for saying that on the parallelist's view the physical is sometimes the cause of the mental, is only the less important half of the story as far as most critics of parallelism are concerned. For the great fear as we know, is that if parallelism is true, it is never the case that anything mental *causes* anything physical. How, finally and precisely, should this charge be dealt with?

One may begin by pointing out that it is usually *subsequent behavior* and not simultaneous brain states that anyone is anxious to be able to regard correctly as being sometimes the causal consequences of having certain mental states. Of course, insofar as there is a chain of intermediate physical occurrences between one's choosing to do something and doing it, one may wish to say that the mental state of choosing must also be the cause of those intermediate physical occurrences. But that is, philosophically speaking, irrelevant detail. It may also be noted that any talk about *the* cause of an occurrence, including an instance of human behavior, apart from a specific context sounds a little odd, although perhaps not outright misleading or false. There is, of course, in a different *philosophical* context, a long story to be told about reasons, motives, intentions, and so on in which more subtle distinctions and finely grained contexts would be drawn upon than we need to invoke here.⁷

In a sense, therefore, after all this preparation it remains to point out only the same fact that was earlier stressed when it was alleged that our mental states make no difference to anything physical if parallelism is true, a charge that I was careful to distinguish initially from the one now under examination. The fact is, to remind ourselves, that on parallelism, it is lawfully impossible for certain behaviors to occur at least as constituents of certain patterns of behavior unless certain mental states also occur *and* occur temporally prior to and "in" the same person as the behavior in question. This fact, when combined with the general conception of causation that is the only ultimately intelligible one, gives a sufficient context and a sufficient reason for being entitled to characterize such situations, even on the parallelist's view of the lawful connections involved, as ones in which a mental state *causes* a physical state.

The "particularists" about causation often point to our experience of willing and doing as another and, for some of them, the most important kind of case in which causation is immediately experienced. They may be right. As one strongly committed to the importance of the phenomenology of experience in philosophical musings, I find it difficult to deny the strength of this claim. But if I am also right, this fact is entirely consistent with the regularity account of causation and with parallelism. And *if* I am right about that, then, I submit, we have removed the last and most difficult barrier many have encountered in believing what is surely so — that parallelism is true.

APPENDIX: A SPECULATION

Mental properties are not publicly observable. Yet each of us has observed (by introspection) a sudden remembering, for example. How does any of us know that in

observing a sudden remembering he is observing the *same property* as others do? How, for that matter, does any of us know that he is observing the same property on successive occasions of his own sudden rememberings? I am willing to allow a certain force to these Wittgensteinian questions with their implicit answer that "the inner stands in need of an outer criterion" provided that it is also realized that since at some point a person simply does take some property or properties as being the same without a "criterion," there is no reason in principle, that is, by the intrinsic nature of the mental as mental, why that person cannot so take mental properties. Certainly the "privacy" of their particular instantiations is no such reason, but only, if at all, the *causal* fact that one cannot learn to identify them as such without an "outer" criterion and without language. Furthermore, whether the property that is given to me when I am aware of my sudden remembering is the same property that is given to you when you are aware of your sudden remembering is a matter of no greater significance than whether the properties given to me (or otherwise observed by me) when I see a cow or hear someone speak are the same properties observed by you in similar situations. Every experience that involves a cognitive aspect, whether of something "inner" or "outer," requires a judgment or a presupposition or (not to be too intellectualistic about it) a simple taking of some property or properties as the same properties one has experienced before. (And I am *not* talking about culturally determined "family resemblances" but literally the same simple property, such as a particular shade of red or a certain pitch.)

I have already argued that if interactionism were true, we could never know what particular state of mind, if any, another person was in at a particular time. That, of course, is quite a different sort of doubt from the kind that Wittgenstein's musings are supposed to engender. But his are, I believe, entirely misplaced *except* insofar as they may show how very deeply rooted in common sense parallelism really is. If there were not some reasonably systematic connection of the coexistence kind between our inner and our outer lives, we probably would never learn the language of mental life. But that is "merely" a causal fact and goes little deeper than the fact that while most of us learn to identify colors as such, that is, without any "criterion," few of us can do so with pitches. Mental properties, I suggest, are somewhat between colors and pitches in this dimension: we are able at first to identify mental properties, or some among them, *only* by outer "criteria," but eventually we are able to identify them in themselves.

Since we can, one way or another, come to identify at least some mental properties without "criteria," it is intelligible for a philosopher, including the empiricist, to hold that mental properties are a distinct set from the physical and to imagine that the world *could have been* such that mental and physical properties interact, that is, that parallelism *could have been* false. My suggestion is that it is only because the physical world is causally closed that we can have, as we do, a conception of a distinct mental realm. For if the physical world were not causally closed, that is, if interactionism were true, then we would never be able to learn the language of mental life and would have no systematic idea of a distinct realm. There would be no outer criteria of inner episodes. So we may be assured that parallelism is true by the simple fact that we can imagine it.

Notes

1. "Mind, Brain, and Causation," *Midwest Studies in Philosophy VI: The Foundations of Analytic Philosophy*, edited by P. French, T. Uehling, and H. Wettstein (Minneapolis, 1979); and "The Efficacy of Consciousness: Comments on Honderich's Paper," *Inquiry* 24 (1981).
2. Some of what follows can be found also, but in more detail, in my "Behaviorism and the Philosophy of the Act," *Nous* 16 (1982).
3. One might go "outside" the system also in the sense of having to mention other *particulars*; but this is of no theoretical interest, in science or philosophy.
4. See my "Dispositions, Explanation, and Behavior," *Inquiry* 24 (1981).
5. For some discussion of the principle in the context of the philosophy of the human sciences, see my *Logic of Society* (Minneapolis, 1975), chap. III.
6. See, for example, Ted Honderich, "Psychophysical Lawlike Connections and Their Problem," *Inquiry* 24 (1981).
7. I have told some of this story recently in my "Dispositions, Explanation, and Behavior."