

Michigan Philosophy News

for friends, alumni, and alumnae of the Department of Philosophy,
The University of Michigan, Ann Arbor

Fall, 1992

Dear Friends of the Department:

Greetings from Ann Arbor! This fall brings some changes in the current group in Angell Hall, as we welcome new faculty and students, bid adieu to the departing, and welcome back faculty returning from leave. Our addition to the faculty is Professor Sally Haslanger, who joins the Department as Associate Professor with tenure. Haslanger has taught previously at the University of Pennsylvania, Princeton University, and the University of California at Irvine. She works mainly on contemporary issues in metaphysics and has also written on Aristotle's metaphysics, and on feminist critique and philosophical issues concerning gender. Her primary focus within metaphysics has been on fundamental problems concerning change and identity of substances over time.

Another addition to our senior faculty is Professor Stephen Yablo, who was promoted from within our ranks last year to Associate Professor with tenure. Yablo also concentrates his research on metaphysical questions, as well as on their interaction with problems in the philosophy of mind. You will be able to sample some of Yablo's work at the intersection between these two fields later in this issue. With Haslanger, Yablo, Gideon Rosen, and several other members of the faculty who have substantial metaphysical interests, Michigan is emerging as a very attractive place for students and faculty to pursue work in this central philosophical area.

One of these faculty is Crispin Wright, who returns to us after two years of research, during which time he held a Readership with the British Academy. This fall, Wright becomes the James B. and Grace J. Nelson Professor in Philosophy. The Nelson Professorship was established last year with newly available resources from a bequest made many years ago to the Department by James B. and Grace J. Nelson, and increased by subsequent gifts from the Nelsons and Mrs. Julia-Jean Nelson-Stokes.

Leaving our faculty last year were Paul Boghossian and Alan Code. Boghossian is going to New York University and Code is taking up a research chair at Ohio State. Both will be missed.

If you get the impression that last year was a lively one around here, you're right. Quite apart from these transitions, there was a lot going on. I mentioned the Nelson Professorship. In addition, three faculty who have made distinguished contributions to the department over many years—Allan Gibbard, Larry Sklar, and Ken Walton—were designated Nelson Fellows. Peter Railton joins this group this fall. Moreover, Allan Gibbard was also awarded a Collegiate Chair by the College of Literature, Science, and the Arts. It is named in honor of Dick Brandt, who, in addition to teaching philosophy to thousands of Michigan students, also taught Gibbard as an undergraduate at Swarthmore. Gibbard is now the Richard B. Brandt Professor of Philosophy.

Several honors were also bestowed on our faculty from outside the university. In July, Crispin Wright was made a Fellow

of the British Academy. And last spring, Allan Gibbard gave the Hempel Lectures at Princeton. Ken Walton gave the inaugural series the year before, so Michigan philosophers have been the first two Hempel Lecturers. Moreover, Gibbard's recent *Wise Choices, Apt Feelings* and Walton's *Mimesis as Make-Believe* were the subjects of various symposia this past year, both at American Philosophical Association conferences, and elsewhere. Larry Sklar's *Space, Time, and Space-Time* was recently translated into Italian and will be published there soon. And Ken Walton's "Categories of Art" appeared last year in French translation. A Swedish translation was published in 1990, and a Finnish translation is soon to appear.

Our graduate students and undergraduates have been gaining their share of honors as well. For the sixth year in a row, a Michigan graduate student was awarded a Charlotte Newcombe Fellowship. Forty Newcombes are given out across the disciplines nationally to support dissertation work on topics with significant ethical dimensions, and of these, approximately six go to philosophers. This year's Michigan Newcombe is Brian Leiter, who is writing on Nietzsche's meta-ethics and critique of morality. Leiter joins seven other Michigan philosophers who have won Newcombes in the past six years—quite a run! And in stiff intra-university competition, both Leiter and Alex Miller won Rackham Predoctoral Fellowships for this coming year.

Last year we awarded the first William Frankena prize for excellence in the undergraduate concentration to Hans Greimel, a graduating senior from Rochester, Michigan. An honors thesis is by no means a prerequisite for the prize, but Hans wrote a very fine one on positive and negative liberty in the philosophy of John Stuart Mill. The Frankena Prize is funded by an endowment established by Marshall Weinberg, who graduated with a B.A. in philosophy in 1950. Both Marshall and Bill Frankena were on hand when the first prize was awarded at a reception for graduating concentrators last May. I wish you could have been present as Marshall spoke movingly of his memories of Bill as a teacher, and of the memories other former students have of Bill. One especially wonderful moment occurred while Marshall was listing the philosophers covered in Bill's introductory course: Plato, Berkeley, Descartes, and Lucretius. "And William James!" Bill piped up in a strong voice. Well, Frankena always was concerned to get the details right. The Weinberg Endowment will also support a prize for graduate students in memory of Charles Stevenson, which we shall award for the first time this fall.

Finally, I want to call to your attention the fact that of four articles and one discussion in the April 1992 issue of the *Journal of the History of Philosophy*, three are by current or recent Michigan graduate students. Hugh Benson (Ph.D., 1984, now of the University of Oklahoma) writes about the problem of false belief in Plato's *Theaetetus*, Richard Dees (Ph.D., 1990, now of the University of St. Louis) analyzes the ways in which Hume's

political philosophy stresses local historical context, and Brian Leiter (still in our program) discusses Nietzsche and aestheticism.

Last year we again had a full and diverse schedule of philosophical events. Our Nelson Philosophers-in-Residence were John McDowell, of the University of Pittsburgh, in the fall, and Thomas Scanlon, of Harvard University, in the winter. Both visited for a week, delivered a public lecture, gave two seminars, and had numerous meetings with students and faculty. Other speakers throughout the year included Stephen Neale (California, Berkeley), J. B. Schneewind (Johns Hopkins), Hubert Dreyfus (California, Berkeley), Jamie Tappenden (Pittsburgh), Soshichi Uchii (Michigan Ph.D., 1971, now of Kyoto University), Richard Boyd (Cornell), Constance Meinwald (Illinois at Chicago), Anthony Appiah (Duke), and Chad Hansen (Michigan Ph.D., 1972, now of the University of Vermont).

For the first time this last year, our graduate students organized the annual spring colloquium and served as commentators. The topic was subjectivism and the philosophy of David Hume, and the speakers were David Wiggins, of Birkbeck College, University of London, Annette Baier, of the University of Pittsburgh, and Mark Johnston of Princeton University. The colloquium was a great success, and not least because of the illuminating remarks of our commentators—Heidi Feldman (on Baier), Ted Hinchman (on Wiggins), and Alex Miller (on Johnston)—and the flawless arrangements of our organizers—especially, Janice Dowell, Justin D'Arms, and Michael Buehler. The prevailing faculty view now seems to be that for their success the graduate students have earned the duty, and not just the right, to organize the annual colloquium.

Last year's Tanner Lecturer was Christopher Hill, the Oxford historian of seventeenth-century England, who spoke on the role of the Bible in the politics of the period. The Lecture was a fascinating discussion of the ways religious categories and images can fundamentally shape moral and political thought. The participants in the Symposium on the Lecture were J. B. Schneewind of Johns Hopkins, Jeffrey Stout of the Department of Religious Studies at Princeton University, and Cynthia Herrup, an historian from Duke University.

More informally, philosophy was percolating as usual throughout the second floor of Angell Hall, and wherever else "two or three gathered together." Our Undergraduate Philosophy Club continued their recent series of lunches and evening discussions with faculty. Ken Walton's lively aesthetics reading and discussion group of faculty and students met frequently throughout the year. And various other such groups flourished—for example, one led by Gideon Rosen for students interested in philosophy of logic and the twice-weekly "ethics lunch" that Professors Brandt and Frankena have convened for many years for faculty interested in moral philosophy.

More solitary research, moreover, was vastly aided and eased by the addition last year of an electronic data-base of philosophical books and articles to the Tanner Library. The data-base, and the necessary equipment to access it, were a gift of Thomas T. Skrentny, M.D. (B.A., 1954). It makes bibliographi-

cal research that was painful or even impossible quite simple and enjoyable, and adds significantly to the value of the Tanner Library, which, as many of you know, was already a wonderful resource.

That about brings you up to date. All in all, things seem to be in good shape. The concentration continues to draw a large number of bright, dedicated students. New reforms in the graduate program appear to help in bringing students to the dissertation stage with better, more structured dissertation ideas, and with more momentum to completion. And despite the fact that the recession significantly lowered the number of entry-level positions, all of this year's Ph.D.'s were placed.

I hope you enjoy the piece just following by Stephen Yablo. In closing, let me thank all of you for your continuing support of the Department. I constantly feel we are all involved in a Burkean trusteeship of the generations, and it is quite remarkable to me how the spirits of those currently in Ann Arbor are continually being lifted by the support of those who passed through Angell Hall before.

Sincerely,



Stephen L. Darwall
Chair

DOES THE MIND MAKE A CAUSAL DIFFERENCE? ¹

I.

High on the list of philosophy's characteristic activities is trying to figure out what Descartes meant in pronouncing minds "separate" from their associated bodies. Here is one thing that he clearly did *not* believe: that minds are *causally* separate from bodies in the sense of having no causal influence over what happens physically. Yet Descartes did maintain that a person's mind is *distinct* from her body, that is, that they are two items rather than one. This creates a problem, for the distinctness thesis, which he affirmed, can seem to support the causal impotence thesis that he rejected.

To appreciate Descartes's predicament, consider a passage from Ray Bradbury's novel *Dandelion Wine*. Early one spring morning, Douglas Spaulding, age twelve, ascended the dark spiral stairs to his grandparents' cupola [to] perform his ritual magic...He pointed a finger...A sprinkle of windows came suddenly alight miles off in dawn country... "Grandpa, get your teeth from the water glass!" He waited a decent interval. "Grandma and Greatgrandma, fry hot cakes!" The warm scent of fried batter rose in the drafty halls... "Mom, Dad, Tom, wake up." Clock alarms tinkled faintly. The courthouse clock boomed. Birds leaped

from trees like a net thrown by his hand, singing. Douglas, conducting an orchestra, pointed to the eastern sky. The sun began to rise... Yes sir, he thought, everyone jumps, everyone runs when I yell...

Various things take place *when* Douglas yells, but do they happen *because* he yells? Assuming physical determinism, the clock's booming, like any other physical event, occurs as the inevitable result of its physical antecedents: the cogwheel's turning, the clapper's swinging, and so on. But, if the booming is already causally guaranteed, quite apart from Douglas's activities, then the latter appear as irrelevant add-ons to which the effect is in no way beholden.

Notice the principle we are relying on here, what I'll call the *exclusion* principle: if an outcome is causally guaranteed by factors distinct from XYZ, then XYZ is causally irrelevant to that outcome. What does such a principle say about outcomes that Douglas intuitively *does* have some control over, like his finger's turning toward the eastern sky? This motion occurs *when* Douglas decides to point east, but does it occur *because* of his decision?

Surprisingly the answer seems to be *no*. At least that is the answer our principle forces on us if we agree with Laplace that every physical outcome has a sufficient physical cause, and with Descartes that mental phenomena are distinct from physical phenomena. Here is why. Being a physical event, the motion of Douglas's finger is causally determined by its physical antecedents. By the principle, then, nothing distinct from those antecedents — such as Douglas's decision — can be relevant to it. So, Douglas's decision to move his finger plays no causal role whatever in his finger's subsequently moving!

Before we dig ourselves in any deeper, there is an ambiguity in our use of "dualism" that needs attention. Descartes was of course a *substance* dualist, for he held that mental substances, or minds, are distinct from physical substances, or bodies. If Cartesian substance dualism has become something of a philosopher's heirloom, more to be treasured than admired, this is not because minds are now seen as *identical* to bodies, but because they have become increasingly difficult to take seriously as self-standing entities. This shows up in a variety of ways of which the most obvious is our inability to hear mind talk as anything but idiomatic. To say that someone has improved, or damaged, or lost her mind, still makes good sense, but only in the way it makes sense to speak of improving, or damaging, or losing one's voice; none of these sound like remarks about peculiarly mental or vocal entities. But without mental entities there can be no substance dualism.

When substance dualism fell from favor, attention shifted to *type dualism*, which distinguishes mental from physical *properties*. Unlike Descartes, type dualists see these properties, for example, dizziness and weighing 150 pounds, as instantiable in the very same entities (most obviously, persons); in fact many maintain that a thing's mental characteristics are *fixed* by its physical condition. What they deny is just that mental properties, for instance the property of suffering pain, are *identical* to physical ones, say, the property of undergoing C-fiber firing. But the story does not end here. Even if mental and physical

properties are distinct, the possibility remains that each particular *tokening* of a mental property — each mental *event* — might be the same as some physical event. Is my present pain sensation, for instance, the same as a certain C-fiber firing now taking place in my nervous system? According to the *token identity theory*, some such equation holds for every mental event. *Token dualists* take the opposite line, claiming that mental events, although closely associated with certain physical events, are never identical to them.

Evidence for both kinds of dualism will be given shortly, but first let us clarify our basic question: how can type (token) dualists avoid *epiphenomenalism*, the theory that mental properties (events) are irrelevant to what happens physically? Above we sketched an argument suggesting that dualists will not find this easy to answer. Here is the argument as it applies to events (for the property version, replace 'event *x*' with 'property *X*' throughout):

- (1) If event *x* is causally sufficient for event *y*, then no event *x** distinct from *x* is causally relevant to *y* (*exclusion*);
- (2) For every physical event *y*, some physical event *x* is causally sufficient for *y* (*determinism*);
- (3) For every physical event *x* and mental event *x**, *x* and *x** are distinct (*dualism*);
- (4) So, for every physical event *y*, no mental event *x** is causally relevant to *y* (*epiphenomenalism*).

As Norman Malcolm, who originally proposed this argument, observes, if (4) is true then "people's intentions never are causal factors in their behaviour."² That is bad enough, but there is worse. Speech and action, almost by definition, involve bodily movements under intentional control. So (4) has the result that no one ever *says* or *does* anything!

Bear in mind that the exclusion argument raises *two* problems for mental causation, one about mental tokens (events), the other about mental types (properties).³ Oddly, philosophers have tended to treat these problems in isolation and to favor different strategies of solution. In Malcolm's original presentation, he emphasises problem one. Given a neurophysiological theory rich enough to

provide sufficient causal conditions for every human movement...there would be no cases at all in which [the] movement would not have occurred if the person had not had [the] desire or intention...[thus] desires and intentions would not be causes of human movements.⁴

Here the mystery is how mental *events*, desires for example, can be making a causal difference when their unsupplemented neurophysiological underpinnings are already sufficient to the task at hand. To reply with the majority that mental events just *are* certain physical events, whose causal powers they therefore share, only relocates the problem from the particulars to their universal features:

though my extending my hand is, in a certain sense, caused by my sudden desire to quench my thirst, it is not caused by my desire *qua* desire but only by my desire *qua* neurological event of a certain sort...if the event that is in fact my

desire had not been my desire but had remained a neurological event of a certain sort, then it would have caused my extending my hand just the same.⁵

Mental *events* are effective, maybe, but not by way of their mental *properties*; any causal role which the latter might have hoped to play is occupied already by their physical rivals. Although someone *could*, following the line above, attempt to *identify* mental properties with (certain) physical properties, say, wanting a milkshake with instantiating such and such a neurophysiological type, this approach is now discredited, because of the so-called multiple realizability objection (see below).⁶ Since, as I'll maintain, the objection can be extended to mental *events*, the identity response is unworkable in either case.⁷

So I find no fault with dualism, either in its type or token version. Then what about the charge of epiphenomenalism? What I will try to show is that, contrary to the exclusion argument, dualism need *not* make mental phenomena causally impotent — indeed that it gives a *better* account of mental causation than that provided by the identity theory.

II.

According to a still reputable traditional doctrine, some properties stand to others as *determinate* to *determinable*. Thus *crimson* is a determinate of the determinable *red*, *red* is a determinate of *colored*, *square* is a determinate of *rectangular* is a determinate of *quadrilateral*, and so on.⁸ As these examples suggest, properties aren't determinate in and of themselves, but only in relation to other properties. So we ought really to speak of a determination *relation*, defined like this:

(Δ) *P* determines *Q* ⇔ for a thing to be *P* is for it to be *Q*
in a specific way.

Notice how (Δ) accommodates the examples: to be red is to be in a specific way colored, to be crimson is to be in a certain way red, and to be square is a way of being rectangular is a way of being quadrilateral.

While (Δ) is somewhat intuitive it could never be accused of philosophical clarity. Can we come up with something better? Say that a property *P* necessitates a property *Q* just in case it is impossible for a thing to be *P* without being *Q* as well. Then whatever else may be true of *red* vs. *colored*, *square* vs. *quadrilateral*, and the rest, it seems clear that the determinate necessitates the determinable, but not the other way around. This gives us (D) as a partial explication of (Δ) above:

(D) *P* determines *Q* ⇒ (i) *P* necessitates *Q*, but
(ii) *Q* doesn't necessitate *P*.

I say a "partial" explication because although (i) and (ii) must hold for *P* to determine *Q*, they also hold in some cases where *P* is *not* *Q*'s determinate. (Being red-and-square, for instance, is not intuitively a determinate of redness.) Still (D) provides a *clue* to determination which in the presence of further evidence can be useful.

III.

As I write, I am in a certain overall physical condition. I am also thinking. Presumably the one fact about me has quite a lot to do with the other. Suppose the pertinent aspects of my physical condition to be encoded in some physical property *P*. Could it be that *P* is a *determinate* of thinking? I say that it is. And I hold further that there is this sort of physical determination whenever a mental property is exemplified.

Remarkably enough, such a view is all but explicit in the reigning orthodoxy about mind/body relations, namely that the mental is *supervenient* on, but *multiply realizable* in, the physical. Because neither thesis concerns determination directly, the point is easily missed that in combination their effect is to portray mental properties as determinables of their physical realizations. Take supervenience first, which says that mental properties are not "ground floor" but a function of underlying physical properties:

(S) necessarily, for every mental property *M* a thing has, *M* is necessitated by some physical property *P* of that thing.

Now, thinking is a mental property, and I possess it. By supervenience, then, I have a physical property *P* given which thinking is metaphysically guaranteed. Of course, *P* can be considered a *determination* of thinking only if it is possible to think without *P*, that is to say, otherwise than by way of the physical property that realizes my thinking in fact. This is where the official story's second part comes in.

When philosophers gave up hope of finding for each mental property an identical physical one, their reason was that mental properties seemed intuitively to be *multiply realizable* in the physical:

Consider what the [type identity] theorist has to do to make good his claims. He has to specify a physical-chemical state such that *any* organism (not just a mammal) is in pain if and only if...its brain is in that physical state. This means that the...state in question must be a possible state of a mammalian brain, a reptilian brain, a mollusc's brain...etc...it will also be a state of any extraterrestrial life that may be found that will be capable of feeling pain.⁹

Moreover the specified state would have to obtain *whenever* any of these various creatures was feeling pain, and indeed whenever *any possible* creature was feeling pain. But this would require a state so extremely unspecific that it could *also* obtain when pain was *not* being felt. And a state that can obtain in the absence of pain is *not* the state of being in pain. To run the argument the other way around, the type identity theorist owes us a physical property specific enough to *necessitate* pain, yet not *so* specific that pain is possible without it. What is hard to see is how the first condition can be met without sacrificing the second. Most philosophers therefore accept the multiple realization thesis

(M) necessarily, for all mental properties *M* and physical properties *P* that necessitate *M*, *M* does not necessitate *P* conversely.

For short, when physical properties necessitate mental ones, they

do so *asymmetrically*. To see how this refutes the identity theory, suppose that *M* were identical to *P*. Trivially then *P* would necessitate *M*. By multiple realization, however, *M* would not necessitate *P* in return, contrary to their assumed identity.

Taken together, (M) and (S) make it a matter of necessity that something has a mental property if and only if it has a physical property by which that mental property is asymmetrically necessitated. But this is extremely interesting, for when “determines” is substituted for “asymmetrically necessitates” it becomes

(E) necessarily, something has a mental property iff¹⁰ it has also a physical determination of that mental property;

and (E) is an instance of the standard equation for determinables and determinates generally, viz. that something has a determinable property iff it has some determinate falling thereunder. This requires an explanation, and the one that comes naturally to mind is that, as (E) says, mental/physical relations are a species of determinable/determinate relations. Next we consider how (E) affects the epiphenomenalism issue.

IV.

Imagine a pigeon Sophie conditioned to peck at red to the exclusion of other colors; a red triangle is presented, and Sophie pecks. Most people would say that the redness was causally relevant to her pecking, even that this was a paradigm case of causal relevance. But wait! I forgot to mention that the triangle in question was a specific shade of red: crimson. Assuming that the crimson was causally sufficient for the pecking, the exclusion principle entails that every *other* property was irrelevant. Apparently then the redness, although it looked to be precisely what Sophie was responding to, made in reality no causal contribution whatever.

Another example concerns properties of events. Suppose that the structures in a certain region, although built to withstand lesser earthquakes, are in the event of a *violent* earthquake — one registering over five on the Richter scale — causally guaranteed to fall. When one unexpectedly hits, and the buildings collapse, one property of the earthquake that seems relevant to their doing so is that it was violent. Or so you might think, until I add that this particular earthquake was *merely* violent (its Richter magnitude was over five but less than six). What with the earthquake’s *mere* violence being *already* causally sufficient for the effect, that it was *violent* made no causal difference.

Surprising results! To the untrained eye, the redness and the violence look like *paradigm cases* of causal relevance, but only a little philosophy is needed to set matters straight. Of course, what these results really show is that, at least as it applies to properties, the exclusion principle is horribly overdrawn.

Not that there is nothing right about it. In *some* sense of “separate,” it stands to reason, separate properties *are* causal rivals as the principle claims. Then what if someone identifies the appropriate notion of separateness and reformulates the exclusion principle accordingly? Suppose it done. Even without hearing the details, we *know* that the corrected principle does not apply to determinates and their determinables — for we know

that they are not causal rivals. This kind of position is of course familiar from other contexts. Take for example the claim that a space completely filled by one object can contain no other. Then are even the object’s *parts* crowded out? No; in this competition wholes and parts are not on opposing teams, hence any principle that puts them there needs rethinking. Likewise any credible reconstruction of the exclusion principle must respect the truism that determinates do not contend with their determinables for causal influence.

With the exclusion principle neutralized, the application to mental causation is anticlimactic. To infer the causal irrelevance of, say, my *dizziness*, from the causal sufficiency of its physical basis, is not appreciably better than rejecting the redness as irrelevant on the ground that all the causal work is accomplished already by its determinate crimson.

V.

According to our guiding principle (Δ) for property determination, *P* determines *Q* just in case for a thing to possess *P* is for it to possess *Q*, not *simpliciter*, but in a certain way. But this way of putting things comes naturally, too, in connection with particulars, and especially events. If *p* is the bolt’s *suddenly* snapping, for instance, and *q* is its snapping *per se*, then for *p* to occur is for *q* to occur in a certain way, viz. suddenly; and my *slamming* the door consists not simply in my shutting it, but in my doing so forcefully.¹¹ This suggests the possibility of a determination relation for events:

(δ) *p* determines *q* \Leftrightarrow for *p* to occur is for *q* to occur, not *simpliciter*, but in a certain way.

Again, though, we would like a condition not quite so murky.

To clarify the idea of *property*-determination, we used the notion of one property’s *necessitating* another. *P* necessitates *Q*, we said, just in case all possible *Ps* are also *Qs*; and *P* determines *Q* only if it necessitates *Q*, but *Q* does not necessitate it back. Maybe something analogous will work for events. Consider, for instance, the Titanic’s *swiftly* sinking and its sinking as such. No one would deny that these are extremely similar, and on many theories they are literally the same. But there is, I think, a subtle difference between them. The Titanic’s sinking *could* have stretched out over hours or days; indeed it *would* have if certain hatches had not been left open. To suppose that the Titanic’s *swiftly* sinking could have been that prolonged, though, makes little sense. Had the Titanic’s sinking lasted days, then its *swiftly* sinking, rather than lasting days, would not have occurred at all.

Overall then the situation seems to be this: every possible occurrence of the Titanic’s *swiftly* sinking is an occurrence of its sinking, *but not conversely*. Other intuitive cases of event-determination fit the pattern too. No possible occurrence of Zsa Zsa’s speeding through the police radar can fail to be an occurrence her driving through it, but the driving could have occurred without the speeding; each possible occurrence of her scratching the officer’s face is an occurrence of her touching his face, but not the other way around; and so on indefinitely. Based on these examples, let’s extend our notion of necessitation from proper-

ties to events, saying that one event *necessitates* another iff every possible occurrence of the first is an occurrence of the second. Then by analogy with condition (D) on property-determination we have

- (d) p determines $q \Rightarrow$ (i) p necessitates q , but
(ii) q does not necessitate p .

Just as mental properties were determinables of physical properties, mental events, I'll now suggest, are determinables of physical events.

VI.

By Leibniz's Law, or the law of the indiscernibility of identicals,

$x = y$ only if x and y are exactly alike in every way.

Since each physical event p has the property of being necessitated by p , a mental event m can be identical to p only if it *shares* this property, that is, only if m too is necessitated by p . At the very least, therefore, the identity theorist must maintain that

- (s) Whenever a mental event m occurs, there occurs a necessitating physical event p .¹²

I want to concede this claim, for there is trouble just ahead: any physical event determinate enough to necessitate a mental event will be *too* determinate for that mental event to necessitate it back. But if physical events are *more* determinate than their mental counterparts, then by Leibniz's Law they are not identical.

Imagine that we are given a pain sensation s , and an underlying brain event b that — we are granting the identity theorist this much — necessitates s . The problem is that as b takes on the degree of essential physical detail that this requires, it becomes intuitively irresistible that the pain could still have occurred even if b had not. Thus Kripke:

... *being a brain state* is evidently an essential property of b (the brain state). Indeed, even more is true: not only being a brain state, but even being a brain state of a specific type is essential to b . The configuration of brain cells whose presence at a given time constitutes the presence of b at that time is essential to b , and in its absence b would not have existed. Thus someone who wishes to claim that the brain state and the pain are identical must argue that the pain could not have existed without a quite specific type of configuration of molecules.¹³

Prima facie, it seems obvious that the pain could still have occurred, even if that specific arrangement of molecules hadn't, and as Kripke says, the *prima facie* appearances aren't easily defeated. Thus although b necessitates s , s does not necessitate b conversely; and this, extended across mental events in general, gives an analogue for particulars of the multiple realizability thesis:

- (m) for every mental event m , and every physical event p which necessitates m , p does not necessitate m .

Token dualism follows, by the same argument as before: if m were identical to p , then p would necessitate m ; hence by (m) it would not be necessitated by m , contrary to their assumed identity.

Drawing these threads together, we find that the relation between mental and physical events effectively duplicates that of mental to physical properties. Whenever a mental event m occurs, (s) guarantees a necessitating physical event p , which by (m) is not necessitated by m in return. Thus with every mental m comes a physical event p that necessitates m asymmetrically. The obvious explanation of this asymmetric necessitation is that p determines m ; so it seems that

- (e) a mental event m occurs iff some physical determination p of m occurs.

This is our analogue for events of the mental/physical determination thesis for properties.

VII.

Haven't we now made mental events causally irrelevant? By the exclusion principle, m can influence an outcome only to the extent that p leaves that outcome causally undecided. Results which p causally guarantees, therefore, it renders unsusceptible to causal influence from any other source, m included. Assuming, for example, that all it took for me to wince, clutch my brow, and so on, was my antecedent physical condition, everything else was strictly by the way. Since my headache is a different thing from its determining physical basis, it is not a *bona fide* causal factor in my headache-behavior.

By now the deficiencies of this line of argument must be evident. Remember Archimedes's excited outburst on discovering the principle of displacement in his bath. Assuming that his shouting "Eureka!!" was causally sufficient for his cat's startled flight, nobody would think that this disqualified his (simply) shouting from being causally relevant as well. Or suppose that Socrates, always a sloppy eater, *guzzled* the fatal hemlock rather than simply drinking it. It would be incredible to treat his drinking the poison as irrelevant to his death, on the ground that his guzzling it was causally sufficient!

Thinking of causal influence as something that an effect's would-be causal antecedents compete over in a zero-sum game, the exclusion principle looks not unreasonable. If the causally sufficient antecedent monopolizes *all* the influence, then the others are left with none. To judge by the examples, however, causation is not like that: rather than competing for causal honors, determinables and their determinates seem likelier to share in one another's success.

Again the application to mental and physical events is anticlimactic. Unless an arbitrary exception is to be made of them, it is no argument at all for the causal irrelevance of (e.g.) a sensation, that its occurring in some specific physical way was causally sufficient. With events as with properties, physical determinates cannot defeat the causal pretensions of their mental determinables.

VIII.

To this point our position is wholly negative: for all that the exclusion argument shows, mental phenomena *can* be causally relevant compatibly with the causal sufficiency of their physical bases. This is not to say they *will* be in any particular case. And even if some mental antecedent *is* causally relevant, it is a further question yet whether it actually *causes* the effect.

Notice some important differences between causal relevance and sufficiency, on the one hand, and causation, on the other: *x* can be causally sufficient for *y* even though it incorporates enormous amounts of causally extraneous detail, and it can be causally relevant to *y* even though it omits factors critical to *y*'s occurrence. What distinguishes causation from these other relations is that causes are expected to be *commensurate* with their effects: roughly, they should incorporate a good deal of causally important material but not too much that is causally unimportant. And this makes causation special in another way. Although determinables and determinates do not compete for causal *influence*, broadly conceived as encompassing everything from causal relevance to causal sufficiency, they *do* compete for the role of *cause*, with the more commensurate candidate prevailing. The interesting thing is that the effect's mental antecedents often fare *better* in this competition than their more determinate physical bases.¹⁴

Assume for the sake of argument that hemlock is equally effective however consumed. Then Xanthippe was mistaken when, disgusted at Socrates's sloppy habits, she complained that his *guzzling* the hemlock caused his death. But why exactly is this a mistake? Because the guzzling is "out of proportion" with its alleged effect. Had the drinking occurred without the guzzling, the death would still have ensued; so it was strictly *more* than the death required.

Here the commensuration constraint exposes an *overtly* determinate pretender. Sometimes, though, the pretender's problem is that it is not determinate enough. Safety-valves are designed to open quickly under extreme pressure, thus easing the burden on the equipment upstream. This particular valve has begun to operate as advertised when the mechanism suddenly stiffens; the opening is decelerated to just past the point of endurance and the boiler explodes. What makes it wrong to blame the effect on the valve's opening *per se*? That something *more* was required for the explosion, namely the valve's opening *so slowly*.

More to the present point is the following example: I arrive on your doorstep and, rather than knocking, decide to press the buzzer. Epiphenomenalist neuroscientists are monitoring my brain activity from a remote location, and an event *e* in their neurometer indicates my neural condition to be such and such. Like any mental event, my decision *m* has a physical determination *p*, and the question arises to which of these the neurometer reading *e* is due. The scientists reason as follows: Because the neurometer is keyed to the precise condition of his brain, *e* would not have occurred if the decision had been taken in a different neural way, in particular if it had occurred in *p*'s absence. So *m* is not

commensurate with *e*; *p* on the other hand *does* look roughly commensurate with *e* and so has the better claim to cause it. Another triumph for epiphenomenalism!

Only the last step is wrong. What is true is that *this* mental event did not cause *that* effect. But who would have thought otherwise? Recognizing that an effect depends not simply on an event's occurring, but on its occurring in some specific manner, one rightly hesitates to attribute causation. To treat the meter reading as resulting from my decision would be like attributing Zsa Zsa's speeding citation to her driving through the police radar *per se*, or the officer's abrasions to her touching his face.

Then when *do* we attribute effects to mental causes? Only when we believe that the effect is relatively insensitive to the finer details of *m*'s physical implementation. Deciding to push the button, I do so, and the doorbell rings. Most people would say, and I agree, that my decision had the ringing as one of its effects. Of course, the decision had a physical determination *p*. But most people would also say, and I agree again, that it would *still* have been succeeded by the ringing, if it had occurred in a different physical way, that is, if its physical determination had been not *p* but some other physical event. And this is just to say that *m* was more *commensurate* with the effect than *p* was. So here are the beginnings, at least, of a story wherein a mental event emerges as better qualified than its physical basis for the role of cause.

IX.

Indeterministic scruples aside, everything that happens is in strict causal consequence of its physical antecedents. But to be causally necessitated is a different thing from being caused, and the physical has no monopoly on causation. Among causation's prerequisites is that the cause should be as far as possible commensurate with its effect, and part of what commensuration demands is that causes should not be overladen with materials to which the effect is in no way beholden. This last is a condition which would-be physical causes frequently violate, thus opening up the market to less determinate events better attuned to the effect's causal requirements. Sometimes, these events are mental. And that is how mental causation happens.

In a "Concluding Unscientific Postscript" to "The Conceivability of Mechanism," Malcolm remarks that it is true for me (and for others, too) that a sequence of sounds tends to lose the aspect of speech (language) when we conceive of those sounds as being caused neurologically... Likewise, a sequence of movements loses the aspect of action...;

and he asks, "is this tendency due to a false picture or misleading analogy?"¹⁵ Many philosophers, anxious to defend the possibility of speech and action, have struggled to articulate what the analogy is which so misleads us. But maybe we are *not* misled, to think that outcomes effected by their physical antecedents are not the expressions of human agency. Maybe, the mistake is to think that outcomes of the kind normally credited to human agency are caused by their physical antecedents.

- ¹ This paper is a shorter version of "Mental Causation" (*Philosophical Review* 101 (Spring, 1992)), ©1992 Cornell University. Reprinted with permission of the publisher.
- ² Malcolm, "The Conceivability of Mechanism," p. 142.
- ³ C.D. Broad was perhaps the first to emphasise epiphenomenalism's double-sidedness: "[it] asserts...that mental events either (a) do not function at all as cause-factors; or (b) that, if they do, they do so in virtue of their physiological characteristics and not in virtue of their mental characteristics" (*Mind and its Place in Nature*, p. 473).
- ⁴ Malcolm, "Conceivability of Mechanism," p. 136.
- ⁵ Sosa, "Mind-Body Interaction," p. 278.
- ⁶ See Putnam, "The Nature of Mental States," and Block & Fodor, "What Psychological States are Not," both in Block (1980).
- ⁷ This is not a cause for regret. Identifying mental phenomena with physical phenomena, we saddle the former with the causal properties of the latter; but common sense sees mental phenomena as possessed of *distinctive* causal properties. See section VIII.
- ⁸ For a classic discussion see Arthur Prior's "Determinables, Determinates, and Determinants."
- ⁹ Putnam, "The Nature of Mental States," p. 228.
- ¹⁰ Here and below I use "iff" as a shorthand for "if and only if."
- ¹¹ By "events" I mean event tokens, not types. Thus my shutting the door occurs at a particular time and place and in a particular way. Nevertheless it *could* have occurred otherwise than it actually did, say, a moment later or earlier.
- ¹² Notice the analogy with section III's supervenience thesis.
- ¹³ *Naming and Necessity*, pp. 147-8, with inessential relettering.
- ¹⁴ To keep things simple, I'll focus on mental events; there is a related story about mental properties.
- ¹⁵ Malcolm, "Conceivability of Mechanism," p. 149.
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