

Psi and Our Picture of the World

Stephen E. Braude

University of Maryland, Baltimore County

This paper examines the ways in which familiar views about the world and our place in it must change in the face of the reality of psi phenomena. It is argued that most commentators are confused on this topic. Contrary to the received opinion, the existence of psi should make almost no difference to our currently accepted body of scientific theories. Nor, as some argue, can it be of much help to a defense of dualism. But the existence of psi has profound implications regarding the pervasiveness of intentions in the world, even in connection with everyday sorts of events. The view is defended that we have no grounds for imposing antecedent restrictions on the range, magnitude, or refinement of psi. Finally, the paper discusses how the evidence for precognition forces serious consideration of a world-view generally associated only with so-called 'primitive' cultures.

I. Introduction

One of the most widely-held beliefs about psi phenomena is that their existence would force a radical change in our view of the world. But despite considerable disagreement over the specific sorts of revisions we would have to accept, for the most part these seem to be variations on some shared general misconceptions. Apparently, most commentators have thoroughly misunderstood the significance of the existence of psi for our world-view. This paper, then, is an attempt to sort through the prevailing major confusions. I shall argue (a) that psi does *not* affect our picture of the world in the ways most commonly supposed, and (b) that it *does* affect it in ways commonly ignored or overlooked.

II. Psi and Science

The greatest convergence of belief probably concerns the impact of psi on our scientific theories. Many hold that science would be profoundly affected by the acceptance of ESP or PK. Again, opinions vary considerably with regard to the specific changes science would probably have to undergo. But a certain general position gets articulated with striking regularity, even in casual conversations by people who have scarcely thought about the topic. Most frequently, people suspect that psi phenomena are either improbable

relative to, or incompatible with, some well-entrenched background scientific theory – at very least some fundamental laws of physics. Hence (they believe), the acceptance of psi would compel us to abandon or substantially alter an important set of received scientific principles or theories. But as far as I can see, this position is far from obvious, and in fact seems to be false.

To begin with, no well-supported global scientific theory (e.g. quantum physics, the general or special theories of relativity, or the theory of evolution) precludes the existence of any specific cognitive or intentional phenomenon, normal or paranormal. For that matter, the existence of ESP is compatible even with theories of perception in psychology. Of course those theories are quite limited in scope as compared with the grand theories of physics, or evolutionary theory. Hence, even if they *did* prohibit the existence of ESP, the failure of that prediction would matter little to science as a whole. But in fact, theories of perception do no more than *describe* the operation of the familiar or known sense modalities. It is not their business to legislate the full range of possible forms of information acquisition or organic interaction. Hence, if other perceptual modalities are discovered, psychology will simply find its domain expanded.

But to focus for the moment just on physics, no fundamental physical laws – including conservation laws – seem to be violated by the mere existence of ESP or PK. For one thing, there are good reasons for thinking that cognitive or intentional phenomena (normal and paranormal) simply lie outside the domain of the physical sciences. But in any case, so little is understood about psi phenomena that it is not clear which physical laws (if any) would apply (see also Stewart [1886]). Moreover, as Nancy Cartwright has recently observed (1983), many (if not most) scientific laws are approximations based on ideal cases and oversimplified boundary conditions, and as such do not strictly apply to real-life situations. But even if we concede that physical laws might still be approximately true of real-life situations (including those in which intentions are causes), in the case of paranormal phenomena we have no decent idea what the relevant, and possibly countervailing, boundary conditions might be. Hence, we have no decent idea whether an apparently violated law should be abandoned, or whether the law is still useful but only with respect to a different set of boundary conditions.

Nevertheless, as far as PK is concerned, some facts concerning physical mediumship (and poltergeist phenomena) suggest that, to the extent that PK is a physical process, fundamental physical laws – including conservation laws – may actually be obeyed. For example, the literature contains numerous reports of cold breezes preceding physical phenomena. And some researchers reported a measured increase in the weight of certain mediums by the amount of force needed to raise a levitated table (see

Braude [1986]). It may also turn out that phenomena sometimes reported in connection with object levitation (e.g. length and temperature changes, and glowing appearances) confirm the predictions of general relativity for paranormally-induced curvature changes. Physicists within parapsychology are just beginning to explore this issue carefully. And as far as ESP is concerned, there is no reason to suppose (as many have claimed) that its apparent insensitivity to distance suggests a violation of Maxwell's equations, even if the phenomenon is mediated by a form of radiation. In fact, no evidence available now or in the foreseeable future could possibly establish that claim.

Actually, the topic of ESP and distance has confused so many people that it merits a slight digression. As Dobbs (1967) has observed, conventional forms of radiation (e.g. short-wave signals) sometimes display similarly anomalous behavior with distance; and these may be explained relative to exceptional sorts of boundary conditions. In principle, one would think that the apparent insensitivity of ESP to distance might be accommodated along similar lines. More importantly, though, the only way to tell whether telepathy (say) obeys the inverse square law would be to determine the precise amplitude and exact departure and arrival times of the putative telepathic signal. But we have no idea at all when or at what level of intensity the presumed signal departs or arrives, much less some device – a telepathy meter – for measuring those parameters. And quite apart from reasons for thinking that radiative theories of telepathy are doomed from the start (Braude [1979]), there is no reasonable prospect of ever being able to make such measurements. The evidence for telepathy consists only of subjects' verbal reports or other physiological responses (e.g. blood volume changes and EEG readings). We simply have no idea when a signal would be transmitted following an experience of the 'sender', or how long it takes a 'receiver' to respond to the signal's arrival. Our very crude measurements of response time, for example, are bound to obscure the extremely small differences in signal delay one would get for a signal traveling at or near the speed of light over a few hundred or thousand miles. Moreover, since a response to a telepathic signal may be partly a function of its *relevance* or *importance* to the receiver, there may be no correlation between intensity of signal and intensity of response. A weak signal (at the threshold of detectability) could provoke an intense response, and a strong signal could provoke a weak response.¹

It is far from obvious, then, that psi phenomena violate fundamental laws or theories of physics, even to the extent that the phenomena are physical. And to the extent that ESP and PK are cognitive or intentional phenomena, the laws of physics should not apply to them at all. Psi phenomena pose no more of a threat to the laws of physics than do the phenomena of ordinary volition. This is not the place to launch a full-scale

attack on physicalistic reductionism in its various guises. Nevertheless, a few general observations are in order.

To begin with, the laws of physics (including conservation laws) strictly speaking apply only to impersonal or mechanical forces – i.e. to physical systems and interactions *abstracted* from the realm of intention. There is no reason to insist that physics must have anything at all to say about the ranges or aspects of phenomena ignored in, or simply not susceptible to, that particular process of abstraction. And those limitations reveal no defect in physics; they merely illustrate the obvious point that the process of abstraction – and the associated activity of theory construction – at best yields only part of a more complex picture. In fact, it is commonplace to consider exceptions to formal laws as demonstrating, not that the laws are literally violated or false, but rather that the domain of the laws is limited.

For example, ‘if-then’ constructions unanalyzable in terms of the material conditional do not falsify the standard laws of logic; they demonstrate merely that standard systems of logic are not properly interpreted as applying to a certain class of expressions. Similarly, although the addition of 7 cc of water to 5 cc of alcohol yields less than 12 cc of liquid, that fact reveals no defect in arithmetic. It shows merely that arithmetic is the wrong formal system for describing the process. Analogously, I suggest, the principles and equations of physics are bound to have their limitations, and are likewise not threatened by phenomena falling outside their domain. Now of course a great deal of psi functioning concerns phenomena or regularities that must be characterized intentionally. Hence it is moot (to say the least) whether psi phenomena pose any threat to physics. Physics should be as irrelevant to parapsychology as it is to psychology.²

Granted, psi phenomena *are* proscribed by various philosophical theses – for example, Broad’s *basic limiting principles* (see Broad [1962], and the discussion in Braude [1979]). But no principle entailing the impossibility of psi is universally accepted, even among educated members of Western industrial society. More importantly, however, the basic limiting principles (and their ilk) are neither presupposed nor implied by *any* fundamental scientific theory. Significantly, the majority of scientists who accept (or who are willing to theorize about) psi phenomena tend to analyze them in conventional scientific terms – usually in the language of physics. Of course, those scientists are usually ignorant of the deep errors afflicting their differing physicalistic or reductionistic programs; indeed, few have more than a rudimentary grasp of the relevant conceptual issues. But the important point is that practicing scientists do not consider the existence of psi as fatal to conventional science (or some fundamental portion thereof).

For that matter (to take what many regard as the most extreme scenario), even if consciousness should survive bodily death, the main body of scientific theories, and certainly the global theories of physics, would remain largely

unaffected. Relativity and quantum physics (say) are mute on the topic of survival. But more generally, if survival were to become an established fact, most areas of science would continue to operate as they had all along. For example, neither geology nor astronomy would have to find new approaches to their respective domains. Nor would physiology be forced to describe bodily functions in novel ways. And for the most part, the social sciences could preserve their approaches to the study of human behavior. Of course, if a surviving consciousness could affect living or non-living systems, some behavioral sciences might have to deal with an expanded range of interactions. But the physical sciences would probably not have to change even that much. If (as many reasonably contend) intentional or cognitive phenomena have no underlying analysis in physical terms, it hardly matters whether those phenomena are associated with embodied or disembodied agents. In neither case would mental→physical interactions be analyzable in physical terms. But in any event, physics is not, strictly speaking, concerned with the domain of intentions, including the fact that living systems initiate, affect, and participate in physical processes. Both humans and rocks, if thrown from a building, will obey the laws of gravitation; it is irrelevant that only the former have intentional properties. Similarly, the physical laws governing billiard ball collisions, the behavior of chemicals in solution, and thermo-nuclear reactions, ignore the often crucial role of intentions in the overall causal network. Presumably, then, the effects of disembodied agents on physical systems would likewise fall outside the domain of physics, except to the extent that the causal role of those agents can be linked with additional causal components describable in purely non-intentional terms. As far as I can see, the reality of survival would make the greatest difference to the already restricted areas of cognitive science and physiological psychology; and even then, the casualties would only be those subsidiary areas attempting to analyze consciousness in conventional physical terms.³

In one important respect, however, the existence of psi does seem to impinge broadly on the fabric of science. But in this case the significance is no different from that of nearly all cognitive or intentional phenomena. The importance of all such phenomena – normal, abnormal, and paranormal – for the structure of science, is that neither physics nor any other physical science can lay claim to being fundamental. The existence of psi phenomena, like that of intentional phenomena generally, provides ammunition for rejecting the view that *any* branch of science is fundamental. Physics (say) should be regarded as neither more nor less fundamental than biology and psychology, which will inevitably have laws and descriptive categories reducible to no other branch of science. Granted, to concede this would be a major step for many people. But it needn't shatter one's faith in the theoretical integrity of physics. All that needs to change is the

belief in the reducibility of all other sciences to physics, a certain general conception of the structure of science. The laws of physics themselves can remain intact.

I suppose there are some whose imperviousness to the best evidence for psi would weaken once they see it as posing no real threat to our body of scientific theories. In fact, a few active parapsychologists probably fall into this class. But for most – even sympathetic – parapsychologists, the resistance to psi runs much deeper, and concerns matters addressed below in sections IV and V.

III. Psi and Dualism

In any case, even if the laws and theories of science can, for the most part, survive the acceptance of ESP and PK (and even survival), what about philosophical theses? If, for instance, the existence of psi provides grounds for denying physics the status of premier or fundamental science, wouldn't it also justify the adoption of an important philosophical position – namely, dualism? Parapsychologists sometimes argue in the affirmative (though philosophers seldom do); and their discussions often betray a very superficial or confused grasp of the issues. The problems stem primarily from (i) a failure to appreciate the difference between a Cartesian or substance-dualism, and a less radical event- or level-of-description dualism (see e.g., Honorton [1978]), and (ii) the belief that explaining paranormal agency or cognition is inherently more problematical for the physical sciences than explaining normal forms of agency and cognition (e.g. Honorton [ibid.] and Beloff [1983]).

With regard to (i), philosophers realize that it is possible to be a substance-monist and a level-of-description dualist. One can hold that the only stuff of nature is physical, but that the physical sciences nevertheless have significant descriptive or explanatory limitations – say, in connection with the domain of intentions. And this general position can assume different forms. One approach would be to adopt a version of epiphenomenalism or Davidsonian anomalous monism. In that case one could argue that each mental event is a physical event, but that no laws correlate the domains of the mental and physical; those domains are nomologically anomalous. Although this position is fatally defective (see, e.g., Braude [1979], Goldberg [1977], Goldberg and Braude [forthcoming]), it is at least intelligible. A more plausible alternative would be, first, to deny that (token) mental events are physical events, and assert instead that the domains of the mental and physical tend to divide up differently into both *kinds* and *objects*. Hence, not only might the *properties* of one domain fail to map onto those of the other (as the anomalous monist contends), but the *members* of one

domain need not correspond to any member of the other. The next step would be to insist that persons and other objects in nature are composed of only physical stuff, but that minds and bodies are not *things* or *objects* in the same sense. 'Mind' would be understood only as a general term for the class of mental events (or a certain *aspect* of what persons and some other organisms do), just as 'weather' is a general term for the class of meteorological events (or a certain aspect of planetary phenomena). Neither the mind nor the weather need be construed as a substance.

With regard to (ii), ESP and PK seem no more difficult to explain in physical terms than are the various forms of normal agency and cognition. Indeed, one can pretend to be able to handle the former just as many now pretend to be able to handle the latter. The strategies would be the same in both cases. One approach, for example, would be to concede our current inability to specify the physical mechanisms underlying psychological (including behavioral) phenomena generally, but then to insist that somewhere down the road, physical science will attain a more sophisticated state and accommodate all such currently intractable phenomena. The other standard approach would be to suggest actual physical mechanisms for the mental phenomena in question (as many have tried, for example, in the case of memory). As it happens, neither approach is viable, since the attempt to specify underlying mechanisms for mental phenomena generally (normal and paranormal) rests ultimately on grossly indefensible pre-suppositions (see e.g., Braude [1979, 1986], Goldberg [1982], Goldberg and Braude [forthcoming], Heil [1978, 1981]). It doesn't matter whether we are concerned with current theoretical proposals or promised future innovations. The same difficulties vitiate *any* conceivable attempt to specify underlying mechanisms for intentional phenomena. That entire project happens – for quite abstract reasons – to be deeply misguided, no matter how one tries to carry it out. Now apparently, those who believe that psi is especially difficult to explain in physical terms have simply failed to appreciate the insurmountable obstacles to explaining *normal* intentional phenomena in physical terms. But if mental phenomena generally cannot be explained with respect to underlying physical mechanisms or processes, and if (as a result) intentional phenomena and regularities may be primitive and unanalyzable, then the existence of psi poses problems in explanation no deeper than those posed by memory and volition.

The moral, so far, is that the only sort of dualist position we could support by an appeal to ESP and PK would be an event- or level-of-description dualism. But to do that, we do not need to address any features of those psi phenomena that are distinctively paranormal. We need only focus on properties they share with normal forms of agency and cognition. The only sort of parapsychological evidence we could adduce in favor of a stronger, Cartesian, dualism, is the evidence for survival. If it could be

shown conclusively that consciousness survives the death and decomposition of the body, we might decide that this state of incorporeal existence can only be explained in terms of a mental substance. On the other hand, evidence of survival might equally be used to argue for a form of idealism, or even a pluralistic view with an inventory of substance-kinds of at least three (see, e.g., Price [1949/1975]). Strictly speaking, then, evidence for survival would not count in favor of dualism specifically. It merely counts *against* a physicalistic substance-monism.

IV. Animism With a Vengeance

In a remote sort of way, those who see a connection between psi and dualism are on the right track. They at least recognize that the mind deserves a greater degree of metaphysical or theoretical prominence than it currently enjoys in certain intellectual circles. But I think the truth is somewhat more intimidating than most imagine; it hits home more forcefully than merely making the abstract concession that the domain of the psychological can stand on its own. Granting certain reasonable assumptions, the existence of ESP and PK could affect our view of the pervasiveness of intentions in the world. In that respect, admitting the reality of psi could herald a return to a form of vitalism or animism – not in the sense of asserting the existence of a vague entelechy in nature. Rather, it has to do with the degree of purposiveness behind seemingly impersonal events. Indeed, if we have no grounds for assuming that psi is limited in refinement or magnitude, then we must be prepared to assign it a role in nature that would make many squeamish:

And, I believe, we have no grounds at all – theoretical or empirical – for supposing that psi has any limits. Since I have defended this view at length elsewhere (Braude [1986]), I shall just briefly outline the relevant major issues. Then I shall consider how we might incorporate the spectre of unlimited psi into our world-view.

To begin with, the very best evidence for psi of any kind is quite probably the evidence from physical mediumship. But that evidence shows that psi exists in forms far more elaborate and refined than any of the small-scale and generally underwhelming results obtained nowadays in the lab. Unfortunately, few people (parapsychologists included) know much about this body of evidence; and those who know something about it tend to be confused about its reliability and significance. That is undoubtedly one reason why many refuse to take seriously the possibility of psi on a grand scale. Nevertheless, a sober appraisal of the evidence from physical mediumship (as well as the best evidence from mental mediumship) should make us all the more reluctant to rule against the possibility of still larger-scale or more refined effects (see Braude [1986]).

The second reason is more abstract. Simply stated, given our present state of ignorance concerning the nature of psi, it is methodologically indefensible to suppose that psi effects can only be of small or moderate scale. If even modest ESP or PK indicate that the usual constraints on information-acquisition and influence on physical systems may be bypassed, then we have no grounds for insisting that those constraints may be bypassed only slightly. For example, if we are willing to admit (or even just entertain, as in a thought-experiment) that agents can affect remote physical systems, then since we have no idea how this might be accomplished, we have no grounds for supposing that the effects are inherently limited in magnitude or refinement. For all we know, random-number generator effects are simply paltry manifestations of a process that has also resulted in levitations, materializations, and even more refined achievements, such as the playing of a musical instrument without touching it. And, given the integrity of the mediumistic evidence, as well as our lack of understanding of the processes ostensibly at work, we must be open to the possibility of even more refined or larger-scale effects.

We must also concede that occurrences of psi will not be confined exclusively to the artificial sorts of conditions (lab experiments, seances) which we devise in order to elicit it. After all, cases of apparent spontaneous psi-in-life are what drove researchers into the lab in the first place. Indeed, experimental psi is probably just an artificial manifestation of a kind of organic functioning which continues to operate when the experimenters are no longer looking. But once we grant that psi might occur in real-life situations, we must also concede that it may go undetected. We have no grounds for insisting that spontaneous psi must always be conspicuous.

In fact, psi phenomena, like normal phenomena, can be conspicuous (or inconspicuous) in two respects – namely, (a) with regard to the magnitude of the effect, and (b) with regard to its smooth blending into (or incongruity relative to) surrounding events. Laboratory psi tends to be inconspicuous in the first sense. Indeed, it is so feeble that we often need complex statistical arguments to demonstrate that it occurred, arguments which (even if sound) many nevertheless find unpersuasive. But even a large-scale psi effect can be inconspicuous in the second sense. For example, heart attacks and broken machinery, even when unexpected, are common enough not to prompt us to look for paranormal causes. Hence, psi-induced stress in a body or machine may easily pass for a normal occurrence. And although spontaneous movements of inert objects may suggest the operation of PK, effects of that sort might nevertheless go unnoticed or pass for normal phenomena in certain contexts – e.g. in the presence of breezes, magnetic fields, vibrations, or shocks. But of course many mediumistic phenomena (especially materializations) stand out like a sore thumb in almost any setting.

Quite probably, then, psi is continuous with the many other organic functions whose manifestations range from the dramatic and conspicuous to the mundane and inconspicuous. For example, the exercise of our mnemonic abilities and muscular coordination in day-to-day affairs is too commonplace and insignificant to grab our attention. But we are suitably impressed by the occasional display of extraordinary feats of memory, as well as the performances of great athletes and acrobats. Similarly, it would not be surprising if psi likewise commanded our attention to varying degrees, sometimes manifesting itself in well-defined and even glaring forms, at other times (perhaps often) integrating itself smoothly and imperceptibly into everyday affairs.

It is at this point that the implications for our world-view of the existence of psi become not just particularly interesting, but rather unsettling. In the case of PK, for example, once we have recognized that we have no idea what the actual constraints on PK (or psi generally) are, it is an insignificant step conceptually from admitting the reality of small- or moderate-scale effects to admitting the possibility of really large-scale effects. Moreover, since psi phenomena can presumably have conscious *and unconscious* causes, we must concede that psi effects may not all be innocuous or benign. In fact, once we have admitted the existence of any PK at all, we will be forced to entertain seriously a world-view usually associated only with so-called primitive cultures. It is a kind of magical view, according to which thoughts can have hostile (and even lethal) consequences, and in which our conscious and unconscious desires can surreptitiously influence the course of our lives, by paranormally making events conform to our wishes.

It is fascinating how uncomfortable many people become when confronted with this view. Those who don't dismiss it out of hand attempt to discount the view by interpreting it in a preposterously extreme way. Almost invariably, they take the view to imply that *all* or *most* of our hostile or aggressive intentions will be paranormally realized; and then they point out, for example, that if that were the case, virtually no one would be alive or intact today (see, e.g., Beloff [1985]). Similarly, one might object that if our thoughts can be benignly efficacious, we would expect people to be generally happier than they are.

But both versions of this objection are extremely weak. Clearly, even if psi is theoretically unlimited in refinement or magnitude, it might be severely curtailed in practice. To simplify matters, let us focus just on the possibility of malevolent psi. Now it is obvious that all normal forms of hostility are subject to numerous constraints; attempted acts of aggression are always part of a larger network of interests and interactions, and are subject to various countervailing forces. That is why attempted insults and physical assaults are often ineffective. But then it seems reasonable to suppose that our psi abilities would likewise be subject to various

constraints. Presumably, hostile psi would analogously be part of a larger complex nexus of interactions, psi and non-psi, overt and covert, and would be susceptible to various constraints or checks and balances (including psychic defenses) within the network as a whole. In fact, there is no reason to think that the network of underlying psi interactions would be any simpler than the enormously complex network of normal influences and interests in which our overt lives are embedded, and which help determine which of our intentions reach fruition. Hence, even if thoughts can kill, it is reasonable to suppose that they often won't.

This would simply be one more plausible way of asserting that psi is continuous with familiar organic phenomena – in this case, the many situation-sensitive abilities or functions whose scope and refinement are not always permitted full expression. Great athletes, for example, are not always able to achieve what they *could* achieve in the absence of certain hindrances (e.g. injury, poor health, loss of confidence, a skillful opponent, or even a mediocre opponent having a great day). Similarly, a person's ability to be perceptive, seductive, funny, intimidating, manipulative, or insulting – even when formidable – is likewise situation-sensitive. It may be inhibited, repressed, ignored, unappreciated, or otherwise deflected or neutralized in different sorts of settings. And it seems reasonable to suppose that, no matter how extensive, refined, or virtuosic psi interactions *can* be, they will also be subject to actual case-by-case limitations,

Nevertheless, once we have allowed a psi to run loose (so to speak) outside the lab or the seance room, and have a role in everyday affairs, we must be prepared for its occasional success in eluding or overcoming the usual constraints. And that means we must entertain seriously the possibility that psi activity underlies or influences events usually considered immune from human intervention (normal or paranormal), or at least immune from all but quite overt sorts of intervention. For example, psi might occasionally be a factor in auto accidents, heart attacks, and bits of apparent bad luck, as well as bits of good fortune and health. And telepathic influence (a phenomenon studied sporadically by the early French investigators of hypnosis) might undergird the thoughts and actions of others.

In fact, for all we know, psi might be interfering occasionally with the normal course of laboratory experimentation in science. It would be ridiculous to suppose that lab PK, for example, can occur only in parapsychology experiments. In parapsychology, there are good reasons for thinking that experimenters are often the sole or at least contributing psi agents, not only in cases where positive results are obtained, but also when the results are not statistically significant (see Braude [1979, pp. 32 ff.]). One of the frustrating aspects of psi experimentation is that conventional experimental controls are useless. There is no way to guarantee that only officially-designated subjects use psi, or that subjects use only the

psi ability being tested for, or that they use it only at the time required for the experiment. Hence, once we take psi seriously enough to test for it, we give up the ideal of a truly 'blind' or 'double-blind' experimental protocol; there is no way to render an experiment blind for ESP. Indeed, no experimental controls can prevent experimenters from using their own ESP or PK to serve their own deep needs and interests. And of course those needs and interests may very well differ from those of which the participants are consciously aware; and they are almost certain to be more deeply motivating than the highly artificial tasks contrived for the subject. But of course, orthodox scientists are no less motivated than parapsychologists to achieve certain experimental results. And since they are not conducting psi experiments, they can easily avoid dealing with an aroused and inhibiting fear of psi. (That fear, I submit, helps to explain why our best PK subjects today achieve less than the great physical mediums of the late nineteenth and early twentieth centuries [Braude (1986)], and quite probably also why many parapsychologists seldom or never achieve results at non-threatening levels of significance.) But then what is to prevent covert psi influence in orthodox laboratory experiments, especially when *many* scientists are hoping for the same result?

Regrettably, it is unlikely that we will ever know conclusively when psi has been a causal factor in everyday sorts of events. But it makes a difference to how we *feel* about our lives, once we acknowledge its possible role. Certainly, it would affect our view of orthodox science if we felt its results might be contaminated by psi influence. But an even deeper reason for that difference, I believe, is the potent fear of responsibility we would feel for our potential involvement in events of which we consciously want no part.⁴ Of course, we might be pleased at the prospect of being able to influence the course of our lives paranormally in a beneficial way (even if only to a minor extent). But no power or ability can be used exclusively for the good. Sooner or later we must confront the possibility that psi will be used to satisfy our vagrant or unconscious thoughts or desires, some of which will undoubtedly be malevolent, self-destructive, or otherwise objectionable.

No doubt many will balk at the viewpoint I am proposing. They will object, first, that I am simply opening the door to wild-eyed reckless speculation about the operation of psi in life, and second, that the hypothesis that large-scale, refined psi occurred in a given case is non-falsifiable. Now first of all, in proposing the aforementioned possible manifestations of day-to-day psi, I do not mean to endorse the uncritical use of psi hypotheses to explain everyday events. Since the operation of psi is unlikely to be any more straightforward or unimpeded than our non-psi activities, psi is probably *not* responsible for every mundane event, or even every surprising bit of luck or misfortune. All I assert is that we have good reason to believe

that psi plays some role in ordinary life, and that its operation need not always call attention to itself.

Moreover, I *do* agree, in general, that we cannot falsify hypotheses positing the operation of subtle, pervasive, inconspicuous, and refined psi (good mediumistic phenomena, however, are another story). But that by itself is no reason to reject those hypotheses. For one thing, the non-falsifiability of an hypothesis does not leave us with *no* grounds for choosing between that and rival hypotheses. We can still appeal to higher-level pragmatic considerations about theoretic systematicity, explanatory fecundity, and conceptual cost. And for another, if subtle and refined psi *did* occur, then – like it or not – it *would* be the sort of phenomenon whose occurrence might never be conclusively demonstrated or disproved. Naturally, that would frustrate certain of our scientific or theoretic ambitions; but we would have no choice but to swallow the bitter pill. It would be extreme hubris to demand that nature's phenomena be custom-tailored to the preferred methods of science. It is ludicrous to insist that the only genuine occurrences in nature are those which pass Popperian criteria of legitimacy. In fact, the acceptance of that standard would compel us to reject the most important – and reasonable – sorts of conjectures we make and rely on all the time in connection with the mental lives of ourselves and others.

V. The Problem of Precognition

Admittedly, the discussion thus far has been comfortably abstract, even if the idea of unbridled or undetectable psi is somewhat unnerving. Apart from noting that physical mediums produced large-scale phenomena, we have not considered whether any data really force us to confront the possibility of even more refined and pervasive, and possibly large scale, psi. But there is a body of data that lifts this issue out of the purely speculative – namely, the evidence for precognition. To understand why, we must review briefly the principal options in the analysis of precognition (for more details, see Braude [1986] and Eisenbud [1982]).

Let us grant (as I believe we must) that there are precognitive data which cannot adequately be explained away as mere coincidence, or explained in terms of some set of normal or familiar processes (see, e.g., Broad [1962]; Cox [1951]; Dunne, Jahn, and Nelson [1983]; Eisenbud [1982]; Krippner *et al.* [1971, 1972]; Puthoff and Targ [1979]; Richet [1923/1975]; E. M. Sidgwick [1888]; and Tyrrell [1938/1961]). In that case, we must resort to paranormal explanations of the data; and these must assume one of two general forms. Eisenbud (*op. cit.*) calls them the *passive* and *active* analyses.

The passive analysis takes precognition to result from a form of retro-

causation; and it, too, has assumed different forms. For example, some regard precognition as a counterclockwise form of perception or information-acquisition, while others do not consider it as obviously a cognitive phenomenon at all. But partisans of the passive analysis all agree in taking some future event *E* (say, the event ostensibly precognized) as the cause of an earlier event *E'* (the precognitive experience). For example, tomorrow's plane crash might cause today's precognitive dream of the crash.

By contrast, the active analysis interprets precognition in terms of high-level clockwise psi – either (a) as a form of inference based on considerable information obtained by ESP of contemporaneous states of affairs, or (b) as the result of refined psychokinesis. In the former case, for example, the precognizer might infer the likelihood of the plane crash from information paranormally obtained about, e.g., developing weather patterns, the maintenance (or lack thereof) on the plane, as well as the activities or mental state of the passengers, crew, or air traffic controllers; and the inference might manifest itself dramatically in the subject's dream material. In the latter case, the subject might, for any number of very deep (and presumably unconscious) reasons, simply cause the plane to crash.

Neither option, however, is likely to inspire much enthusiasm, though for rather different reasons. Consider, first, the passive analysis. Even if the concept of retrocausation were intelligible or defensible, this analysis would face serious obstacles. Some (e.g. Broad [1967]) would reject any account that attributes causal efficacy to future events, on the grounds that such events lack the appropriate ontological status to be causes. As Broad puts it,

what we call a 'future event or state of affairs' is nothing but an unrealized possibility, until it happens or 'comes to pass'; and that which *is not* cannot possibly *do* anything, and therefore cannot be a factor *influencing* anything. . . . the phrase 'future event' does not describe an event of some special kind, as the phrase 'sudden event' or 'unfortunate event' or 'historic event' does. Suppose, e.g., that I refer now to my own death as a 'future event'. I am merely saying that *there will some day* be an occurrence correctly describable as 'the death of C. D. Broad'. Until that day shall arrive 'my future death' is nothing, and therefore can influence nothing. (1967, p. 193)

Of course, many might wish to argue that future events are genuine after all, perhaps by appealing to a block-universe cosmology, according to which the history of the universe is already laid out atemporally in its entirety. But that approach suffers from an imposing array of problems. To begin with, the conception of a block universe is highly controversial. Many consider it unable to make sense of consciousness and the awareness of temporal passage; and we may also be unable to reconcile it with the claim (advanced by some physicists) that indeterminacy is a fundamental feature of nature. Moreover, there are persuasive reasons for thinking that the

conception of a block universe is simply inadequate to account for precognition – in particular, that it cannot explain how or why the precognizer intersects the appropriate segment of the block universe in order to precognize it (see Werth [1978]).

Hence, even if it should turn out that retrocausation is not a theoretical kiss of death, the passive analysis is impaled on the horns of a dilemma. Either it takes precognitive episodes to be caused by mere unrealized possibilities, or else it reifies the future in ways which are controversial at best, and which may still fail to explain the phenomena in question. And of course, if the concept of retrocausation is profoundly defective (as I and many others have argued), the passive analysis of precognition is rotten at its foundation.

But the concept of retrocausation *is* defective (although perhaps not for the reasons usually mentioned). The issues are too complex to be summarized adequately. But let me indicate roughly, at least, what seems to be amiss. To begin with, events and causal connections are not thoroughly or inherently isolated elements in nature. On the contrary, although we can often identify them with considerable precision, we nevertheless parse events and their causal connections out of an intrinsically undifferentiated surrounding web of happening. Whenever we relate two events as cause and effect, we are, first of all, making a decision to slice nature into event-pieces of a certain kind and magnitude (rather than another, suitable for other purposes). And second, we presuppose that those events are part of a larger causal network of events leading to and away from them. Hence, any causal connection we identify will always be part of a surrounding nexus of events spreading indefinitely into the past and future. For various pragmatic reasons, we find it worthwhile to single out specific connections from the intrinsically seamless history leading to and away from the events we relate causally. Moreover, from out of that history, we can distinguish additional causal lines, some converging toward the individual events and others spreading out from them. And although we might assign precise temporal boundaries to events and their causal chains, those boundaries are also no more than pragmatically useful devices for describing natural occurrences. *We* impose those boundaries on nature.

Now partisans of retrocausation (let us call them ‘retrocausalists’) like to claim that counterclockwise causal connections are just like (i.e. mirror images of) clockwise causal connections – except, of course, for the direction of the temporal arrow. But clockwise connections are always part of an extensive causal history running *in the same temporal direction*. Any clockwise cause we identify can be viewed as the outcome of numerous converging causal lines traceable back indefinitely into the past; and from its effects we can always trace further clockwise causal consequences spreading indefinitely into the future. Retrocausal connections, on the

other hand, are always treated as virtually isolated links, rather than as part of a surrounding nexus of counterclockwise happening. Ordinary causal connections are conveniently individuated from an undifferentiated mass of surrounding clockwise happening. But retrocausal connections seem to come from and go to nowhere – counterclockwise, that is. For example, the precognized plane crash (significantly, an event described in terms presupposing clockwise causation) is not treated as if it has an indefinitely long history leading retrocausally back to it. Nor is the precognitive dream of the crash (again, described in clockwise terms) treated as if it has an extensive history of further retrocausal repercussions. Retrocausal connections stand out like a sore thumb on any causal map. They do not mirror ordinary causal chains by spreading out extensively back into the future and out into the past.

And this feature of retrocausation cannot be defended by positing a second, or new sense of ‘cause’ or ‘event’, according to which either may be regarded as isolated from a mass of happening running in the same temporal direction. In order to revise or supplement the concepts of causation and event in this way, we would have to defend the abandonment or radical revision of a large cluster of related concepts, all of them central to our conceptual framework (e.g. explanation, understanding, decision, intention, action), and none of them otherwise in need of revision. Moreover, this far-reaching move is neither required by the data, nor more parsimonious than the alternative of accepting the active analysis. (These remarks, unfortunately, reveal no more than the tip of the dialectical iceberg. For more details on this line of criticism, see Braude [1986].)

So that leaves the active analysis. And regrettably, that analysis explains the evidence for precognition in terms of the sort of high-level (if not virtuosic) psi that makes most of us uncomfortable. But since the data on precognition are too imposing to be dismissed, and resistant to explanation in terms of normal or familiar processes, we have no choice but to accept the reality of pervasive, and apparently extremely refined and extensive, clockwise psi. Moreover, since (as I argued earlier) we are not entitled to *assume* that psi can occur only on a moderate or small scale, and since the mediumistic evidence already demonstrates an imposing level of psi functioning, we cannot dismiss the active analysis on the grounds that the degree, refinement, or accuracy of psi required is antecedently incredible.

Nevertheless, the active analysis is particularly difficult to accept warmly. And the primary reason may concern the grim nature of many ostensibly precognized events. The history of mankind leaves us no choice but to concede that *others*, at least, are capable of the most dastardly acts of aggression and depravity. But to the extent that PK is the active form of psi in ostensible precognitions, the evidence suggests strongly that in our unconscious lives *we* might be capable of similar atrocities – or at least that

we are far more vicious, vindictive, mischievous, or petty than we care to believe. (Of course, that would come as no news to psychiatrists or others in the field of mental health.)

Hence, unpleasant though it may be, we may have to reconcile ourselves to a conception of our place in nature which many readers, no doubt, will fancy that we have evolved away from. The active analysis posits a degree and kind of information-acquisition and influence which we tend to associate with the allegedly naïve or unsophisticated world-views of primitive or less-developed cultures. Indeed, the active analysis seems to require that we repudiate much of what we think we know about the world, and return to a belief in processes very much like the evil eye, hexing, magic spells, and divination. For several hundred years the successes of modern physical science have helped foster the view that the operations of nature are largely impersonal, and that we are more often bystanders, rather than agents, in the calamities, misfortunes, and other sundry occurrences happening around us all the time. In that way, science has perhaps enabled us to put some conceptual distance between ourselves and our apparently primitive forebears. It has perhaps helped us escape the fear of responsibility for numerous events outside our immediate normal physical influence, events which we might have wished (perhaps only secretly or unconsciously) to occur, but about which we would feel guilty if we thought our wishes had been genuinely efficacious. The irony, then, is that people whom we condescendingly regard as 'savages' might, in certain crucial respects, have a more accurate world-view than we do, and that what we take to be conceptual progress may in fact be largely the result of confusion and cowardice.

NOTES

- 1 We can now see what is so outlandish and shallow about a suggestion made a few years ago by Brian Skyrms during a conference program on which the two of us appeared. Skyrms suggested a test to see whether telepathy violated the inverse square law. Conduct a telepathy experiment, he proposed, with participants' heads touching, and then separate them for another series of experiments to see if there is any difference. To make matters worse, Skyrms seemed unaware that no controlled experiment can test only for telepathy, as opposed to clairvoyance or PK (see Braude [1979]).
- 2 The irrelevance of physics to psychology has been conceded even by some cognitive scientists – at least during occasional spasms of clarity. See, e.g., Fodor [1975, 1981].
- 3 Of course, I and many others believe that those branches of science should be scuttled right now – independently of the data of parapsychology – simply in virtue of their egregious mechanistic presuppositions.
- 4 It would hardly be surprising if that fear helps account for the aforementioned (indefensible) tendency to argue that if hostile thoughts can kill, they always (or usually) will.

REFERENCES

- Barrett, W. F. 1886. 'On Some Physical Phenomena, Commonly Called Spiritualistic, Witnessed by the Author.' *Proceedings of the Society for Psychical Research* 4, 25–42.

- Beloff, J. 1983. 'Parapsychology and Radical Dualism.' Paper presented at 26th Annual Convention of the Parapsychological Association. Abstract in *Research in Parapsychology 1983* (ed. R. A. White and R. S. Broughton), 39-42.
- Braude, S. E. 1979. *ESP and Psychokinesis: A Philosophical Examination*. Philadelphia: Temple University Press.
- Braude, S. E. 1986. *The Limits of Influence: Psychokinesis and the Philosophy of Science*. London/New York: Routledge & Kegan Paul.
- Broad, C. D. 1962. *Lectures on Psychical Research*. London: Routledge & Kegan Paul.
- Broad, C. D. 1967. 'The Notion of "Precognition"', in J. R. Smythies (ed.), *Science and ESP*. London: Routledge & Kegan Paul, 165-96.
- Cartwright, N. 1983. *How the Laws of Physics Lie*. Oxford/New York: Oxford University Press.
- Cox, W. E. 1951. 'Precognition: An Analysis, II.' *Journal of the American Society for Psychical Research* 50, 99-109.
- Dobbs, A. 1967. 'The Feasibility of a Physical Theory of ESP', in J. R. Smythies (ed.), *Science and ESP*. London: Routledge & Kegan Paul.
- Dunne, B., Jahn, R. G., and Nelson, R. D. 1983. *Precognitive Remote Perception*. Princeton: Princeton University School of Engineering/Applied Science.
- Eisenbud, J. 1982. *Paranormal Foreknowledge: Problems and Perplexities*. New York: Human Sciences Press.
- Fodor, J. A. 1975. *The Language of Thought*. Cambridge, Mass.: Harvard University Press.
- Fodor, J. A. 1981. 'Special Sciences', in *Representations: Philosophical Essays on the Foundations of Cognitive Science*. Cambridge, Mass.: MIT Press.
- Goldberg, B. 1977. 'A Problem with Anomalous Monism.' *Philosophical Studies* 32, 175-80.
- Goldberg, B. 1982. 'Mechanism and Meaning', in C. Ginet and S. Shoemaker (eds.), *Knowledge and Mind*. Oxford/New York: Oxford University Press.
- Goldberg, B. and Braude, S. E. (forthcoming). 'Does Behavior Have an Internal Cause?'
- Heil, J. 1978. 'Traces of Things Past.' *Philosophy of Science* 45, 60-67.
- Heil, J. 1981. 'Does Cognitive Psychology Rest on a Mistake?' *Mind* 90, 321-42.
- Honorton, C. 'A Parapsychological Test of Eccles' "Neurophysiological Hypothesis" of Psychophysical Interaction', in B. Shapin and L. Coly (eds.), *Brain/Mind and Parapsychology*. New York: Parapsychology Foundation, Inc., 35-51.
- Krippner, S., et al. 1971. 'A Precognitive Dream Study with a Single Subject.' *Journal of the American Society for Psychical Research* 65, 192-203.
- Krippner, S., et al. 1972. 'A Second Precognitive Dream Study with Malcolm Bessent.' *Journal of the American Society for Psychical Research* 66, 269-79.
- Price, H. H. 1949/1975. 'Mind Over Mind and Mind Over Matter', in P. A. French (ed.), *Philosophers in Wonderland: Philosophy and Psychical Research*. St. Paul: Llewellyn, 1975, 232-43.
- Puthoff, H. E. and Targ, R. 1979. 'A Perceptual Channel for Information Transfer over Kilometer Distances . . .', in Tart, Puthoff, and Targ (eds.), *Mind at Large*. New York: Praeger.
- Richet, C. 1923-1975. *Thirty Years of Psychical Research*. New York: Macmillan; reprinted, New York: Arno Press.
- Sidgwick, E. M. 1888. 'On the Evidence for Premonitions.' *Proceedings of the Society for Psychical Research* 5, 288-354.
- Stewart, B. 1886. Note on Barrett (1886). *Proceedings of the Society for Psychical Research* 4, 42-4.
- Tyrrell, G. N. M. 1938/1961. *Science and Psychical Phenomena*. New Hyde Park, New York: University Books.
- Werth, L. F. 1978. 'Normalizing the Paranormal.' *American Philosophical Quarterly* 15, 47-56.

Received 10 March 1987

Stephen E. Braude, Department of Philosophy, University of Maryland, Baltimore County, Baltimore, Maryland 21228, U.S.A.