

**GUEST COLUMN:**  
**TERMINOLOGICAL REFORM IN PARAPSYCHOLOGY:**  
**A GIANT STEP BACKWARDS**

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**Introduction**

Parapsychologists have never been entirely satisfied with their technical vocabulary, and occasionally their discontent leads to attempts at terminological reform.<sup>1</sup> Recently, a number of prominent parapsychologists, led by Ed May, have regularly abandoned some of parapsychology's traditional and central categories in favor of some novel alternatives (see, *e.g.*, May, Utts, and Spottiswoode, 1995a, 1995b; May, Spottiswood, Utts, and James, 1995). They recommend replacing the term "ESP" with "anomalous cognition" (or AC) and "psychokinesis (PK)" with "anomalous perturbation" (or AP). Advocates of these new terms also propose replacing the term "*psi*" or "*psi* phenomena" with "anomalous mental phenomena." Superficially at least, these proposals seem merely to be modest extensions of parapsychology's increasingly frequent use of the term "anomalous" as a substitute for "paranormal," a practice which (although controversial) is not without merit, and which Palmer has vigorously defended (1986, 1987, 1992). But in my view, the proposed new terminology creates more problems than it solves.

Generally speaking, there is no justification for changing an established technical or professional vocabulary unless the proposed innovations offer an advantage of some kind. For example, the new terms might be more theoretically neutral, or make significantly fewer assumptions, than their predecessors. But the introduction of new terms might also be defended on pragmatic or political, rather than philosophical or theoretical, grounds. For example, in a controversial field such as parapsychology, one could argue that the changes promote more widespread understanding or acceptance of one's research and perhaps increase the probability of receiving funding. In that case, the new terms do not need to introduce a substantive conceptual change. They might simply be synonymous with, but more agreeable than, the older terms.

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<sup>1</sup>Not surprisingly, those suggestions have also failed to gain universal approval. For example, despite the widespread adoption of Thouless and Wiesner's term "*psi*," parapsychologists displayed little interest in their proposed "*psi-gamma*" and "*psi-kappa*" (Thouless and Wiesner, 1948). And John Palmer's term "omega" (Palmer, 1988) seemed to attract no adherents other than its author.

But the proposed new vocabulary apparently has none of these virtues. For one thing, advocates of the new terminology do not specify clearly how the new terms relate semantically to the old. There are two main options. The new terms could be synonyms for (that is, have the same meaning as) their predecessors, or they could simply be coextensive with those expressions (that is, the old and new terms might merely pick out, or apply to, the same range of objects or events).<sup>2</sup> But as we will see, the new terms are neither synonymous nor coextensive with the old. Of course, these differences in meaning or extension would be tolerable or desirable if the new terms offered a correspondingly tolerable or desirable conceptual advantage. But we will also see that the new expressions are no more theoretically neutral, and are demonstrably less useful theoretically, than the terms they replace.

### The Grubby Details

In May, Utts, and Spottiswoode (1995b, p. 454), we find a justification of the new terminology, which (despite the magnitude of the proposed change) is surprisingly terse and relegated to a footnote. The authors write:

The Cognitive Sciences Laboratory has adopted the term *anomalous mental phenomena* instead of the more widely known *psi*. Likewise, we use the terms *anomalous cognition* and *anomalous perturbation* for ESP and PK, respectively. We have done so because we believe that these terms are more naturally descriptive of the observables and are neutral with regard to mechanisms.<sup>3</sup>

But this favorable assessment of the merits of the new terms seems unwarranted. To see why, let us begin by considering the most general of the terms, “anomalous mental phenomena.” And for dialectical simplicity, I will direct most of my criticisms toward Ed May, the apparent originator and leading proponent of the new terminology, although he is certainly not its only advocate.

First of all, the expression “anomalous mental phenomena” seems far too inclusive. On any reasonable and familiar construal of the term “anomalous,” all sorts of occurrences count as anomalous mental phenomena that would not have been classified as ostensible cases of *psi* — for example, various types of psychopathology, as well as many non-pathological, but highly unusual, desires, thoughts, or volitions that may occur only once in a person’s life (e.g., wanting to sit in the oven and pretend one is a loaf of bread, or wanting to have sex while covered in chutney). In fact, even more mundane examples of unusual behavior would arguably qualify as anomalous mental phenomena — for example, an ordinarily timid and mild-mannered person’s sole outburst of

<sup>2</sup>For example, the terms “triangular” and “trilateral” are coextensive; they both apply to the class of triangles. But they clearly differ in meaning, and hence are not synonymous.

<sup>3</sup>In May, Lantz and Piantineda, 1996, this last phrase is changed to “neutral in that they do not imply mechanisms” (p. 211). Utts (1996) is more laconic, noting that the terms “extrasensory perception” and “psychokinesis” are to be replaced by “the more neutral terminology” (p. 5) “AC” and “AP.” She never explains in what respects the newer terms are more neutral.

uncontrollable anger. Obviously, similar problems afflict the terms “anomalous cognition” and “anomalous perturbation.” They likewise will pick out phenomena falling outside the domain of parapsychology. For example, the ability of calendar savants to identify the day of the week for any date, or a husband’s only instance of experiencing sensitivity to his wife’s emotional needs, would count as instances of the former. And object movements caused by unusual and unexpected tectonic shifts, or by the simultaneous jumping up and down of the entire population of New Orleans, would count as instances of the latter.

These awkward results are fairly obvious. So one would think that the originators of the expression “anomalous mental phenomena” would take steps to avoid them by explaining clearly how we are to understand the term “anomalous.” But the only explanation I have seen is as follows (and which, for convenience, I will dub criterion  $\Psi$ ). “In the crassest of terms, anomalous mental phenomena are what happens when nothing else should, at least as nature is currently understood” (May, Utts, and Spottiswoode, 1995a, p. 195; 1995b, p. 454). Clearly, this is of no help. Scientists are hardly unified about what *should* occur in nature, and if those disagreements are taken seriously, all sorts of phenomena would count as anomalous mental phenomena that would never have been considered ostensible instances of *psi* (e.g., every surprising discovery in astronomy, physics, or biology whose reality is initially questioned by the scientific community). Even worse, criterion  $\Psi$  would countenance phenomena that are in no respect *mental*. According to  $\Psi$ , an example of an anomalous mental phenomenon (or at least an *ostensibly* anomalous mental phenomenon) would be the recent discovery that galaxies lying along a specific direction in space show significantly greater polarization of their radio waves than do galaxies in any other direction. On the surface, at least, that would seem to challenge the prevailing belief that the universe has no preferred direction (e.g., no up or down). Furthermore, as nature is currently understood, science is almost entirely mute on which mental phenomena should occur. Physics clearly has nothing to say on the matter, and there is hardly any general agreement within the behavioral sciences about what sorts of mental phenomena should occur.

Moreover, it is simply unclear how to interpret the force of “should” in criterion  $\Psi$ . If that criterion is supposed to pick out only those phenomena which most scientists consider highly improbable, then (again), too many phenomena fall under the heading of anomalous mental phenomena. Most scientists would assign a very low probability to the appearance of a calendar savant, or a person whose debilitating spasticity disappears only when playing the piano, or a mnemonist of the sort described by Luria (1968/1987).

These considerations highlight another, and perhaps deeper, difference between “anomalous mental phenomena” and “*psi*.” The latter term is not clearly relational, whereas the former term unquestionably has an underlying relational semantic structure. Something is an anomalous mental phenomenon only in

relation to a person or theory (or some other standard) relative to which it counts as sufficiently unusual. In other words, objects or events are not anomalous *simpliciter*. They are always anomalous relative to a standard of normality. That is why frequent dissociative episodes might be anomalous in our culture but not in others. Similarly, wanting to have chutney-covered sex, or wanting to play loaf of bread in the oven, or wanting to read the complete philosophical works of Stephen Braude might be anomalous for some people but not others, or for some people only at certain times in their lives. By contrast, an event is a *psi* occurrence (or instance of ESP or PK) independently of these sorts of considerations.

Granted, what counts as PK (say) may be relativized to the current state of scientific knowledge, and in that respect the terms “*psi*,” “ESP,” and “PK” would also be relational. But “anomalous” is a relational term in quite a different way. In fact, unlike, “*psi*,” “ESP,” and “PK,” one could consider it to be a *normative* expression. Even against the same (admittedly shifting or variable) background of scientific knowledge or presuppositions, an event may be anomalous in one situation or for one person, but not for another.

So even if the familiar trio of traditional parapsychological terms counts as relational, we would still want to distinguish those terms from “anomalous mental phenomena.” We could say that “*psi*,” “ESP,” and “PK” pick out a *dyadic* relation between an event and a background theory (*e.g.*, the current state of scientific knowledge), whereas “anomalous mental phenomena” picks out a *triadic* relation between an event, a background theory, and a standard of normality. Therefore, quite apart from the fact that the use of “anomalous” in “anomalous mental phenomena” encompasses phenomena that fall outside the domain of parapsychology, the terms “*psi*” and “anomalous mental phenomena” have different logical structures. Hence, those terms seem to be neither synonymous nor coextensive. In fact, because the relational structure of the latter is more complex than that of the former, proponents of the term “anomalous mental phenomena” cannot defend it on grounds of its greater simplicity.

The definition of “anomalous cognition” in May (1996) reveals an additional set of problems. According to May, “Anomalous cognition is defined as a form of information transfer in which all known sensorial stimuli are absent. This is also known as Remote Viewing (RV) and Clairvoyance” (p. 89). The first problem rests with the second sentence in this passage, and it is easily avoidable. If, as May claims, “AC” is synonymous with “remote viewing” or “clairvoyance,” then it is not a synonym for “ESP,” as May has alleged elsewhere (*e.g.*, in the passage quoted above), because it explicitly omits all phenomena that would have properly counted as telepathic. Thus, it ignores the valuable distinction between ESP of an individual’s subjective states and ESP of objective states of affairs. And in that case, “AC” is obviously a less useful term than the one it is intended to replace. Utts (1996) is more circumspect on

this matter, noting that “anomalous cognition is further divided into categories based on the apparent source of the information” (p. 5).

I suppose one could try to defend the proposed synonymy of “AC” with “RV” and “clairvoyance” by rejecting the distinction between telepathy and clairvoyance. And it would not be surprising if it turned out that this is what May, at least, really had in mind. May could argue that his definition of “AC” presupposes a commendably austere physicalistic ontology according to which mental states are less real (in some sense) than physical states, and in light of which cases of telepathy *reduce* to cases of clairvoyance (*i.e.*, information transfer from physical — presumably, brain — states). But that strategy would be unconvincing, quite apart from the notorious failure of attempts to reduce the mental to the physical. The problem is, again, one of conceptual and linguistic impoverishment. The distinction between telepathy and clairvoyance has considerable utility no matter *what* one’s underlying metaphysics is. No matter how we analyze minds (or mental states) and physical objects (or physical states), it is still, and quite obviously, useful to distinguish mental→mental ESP from physical→mental ESP. For example, the distinction is presupposed in all discussions of the utility or eliminability of an agent (or “sender”) in ESP tests. Besides, the demands of scientific taxonomy do not have to wait for solutions to long-standing metaphysical puzzles.

So perhaps the second sentence in May’s definition of “AC” was an innocent slip, and perhaps May would not insist on the synonymy of “AC” with “RV” or “clairvoyance.” But even if May dropped that claim or in some other way amended the definition of “AC” so that it encompassed both telepathic and clairvoyant phenomena, the term would still suffer from a deeper and fatal defect. In this case, the source of the problem is the term “cognition,” rather than “anomalous,” and it demonstrates that “anomalous cognition” is not conspicuously “more neutral with regard to mechanisms” than the term it is intended to replace. In this case, the lack of neutrality emerges clearly in the separate accounts provided by May and Utts. May claims that “anomalous cognition is *defined* as a form of *information transfer* in which all known sensorial stimuli are absent” (May, 1996, p. 89, emphasis added). Utts makes it clear that “AC” is intended to be a synonym for “ESP,” and she describes ESP as an ability “in which one *acquires information* through unexplainable means” (p. 5, emphasis added). The problem, then, is that the various definitions of “AC” proposed by May and Utts seem to ignore the vital distinction (first mentioned by Broad, 1962) between telepathic or clairvoyant *cognition* and telepathic or clairvoyant *interaction*.

Broad shrewdly recognized that much of the evidence for ESP was not evidence of any kind of knowledge. For example, it would count as a case of telepathy if one person’s mental state *merely influenced* that of another, even if the latter knew nothing as a result about the former’s mental state, and even if the case cannot usefully be described as one in which the subject “acquired information” about another individual’s subjective states. So, if my thought of

Bugs Bunny directly caused another person simply to think about Bugs Bunny (or about rabbits generally, or about Elmer Fudd), that would be an instance of telepathic interaction but not telepathic cognition. Similarly, it would be a case of clairvoyant interaction (not cognition) if a burning house caused someone at a remote location simply to think about fire (or heat), or to feel a need to apply aloe to one's skin, or if it produced in the subject a desire to watch "Blazing Inferno." But since "AC" seems to obliterate this useful distinction, it can hardly be defended on grounds of theoretical neutrality, much less on grounds of empirical adequacy (*i.e.*, being "naturally descriptive of the observables").

Perhaps the clearest examples of this shortcoming in the proposed definitions of "AC" are those in which remote states of affairs cause an individual to *act*, and which would have traditionally and usefully been classified as cases of either telepathic or clairvoyant interaction. These cases pose a problem for May and Utts because (a) they are frequently described in the literature on spontaneous cases, and (b) they cut off a certain escape route from the previous difficulty. May and Utts might have claimed that the expression "cognition" was merely a terminological infelicity, suggesting (admittedly misleadingly) that every instance of AC is a kind of knowing or cognition. What matters, May might have argued, is that AC is merely a kind of anomalous "information transfer." Similarly, Utts could claim that what matters is the "acquisition of information." And one could argue that some sort of information is acquired or transferred even when a thought about Bugs Bunny causes someone to think about Elmer Fudd, or when a burning house causes someone to think about matches. But even if that were true, it is still the case that certain kinds of ostensible telepathic and clairvoyant interaction cannot be defined or analyzed in terms of information transfer. And the most problematic examples are those cases of apparent telepathic influence in which one person *wills* or *commands* another to act. (For a discussion of this sort of telepathic interaction, see Eisenbud, 1992, chapter 6.)

The problem is this — causing a person to act, whether normally or paranormally, cannot be explained simply in terms of transfer of information. The clearest examples might be cases of behavioral coercion. It is not information transfer at all if I physically force you to pull the trigger of a gun, and we similarly cannot analyze as information transfer a case in which my thoughts alone compelled you to produce physical movements. Perhaps May could reply that this latter phenomenon should properly be called "anomalous perturbation" (AP). But that would seem to blur the otherwise useful distinction between telepathic influence and PK. Moreover, the strategy could not be extended to cases where objective physical states (such as a burning house) cause a remote individual to act, because that would collapse the otherwise useful distinction between clairvoyance and PK. Furthermore, problems remain even if we ignore cases of coercion. It is not simply information transfer (even in a suitably broad sense of "information") if I get you (either normally or paranormally) to act by means of a suggestion, command or verbal threat. Granted, your aware-

ness of my words might be a causal condition of your acting on them, but my words are not sufficient for your acting. Thus, your action cannot be explained simply in terms of what you heard (or paranormally “heard”) me say. One must not only hear a command (*i.e.*, receive information), but do something about it (*e.g.*, will or decide to act upon it). And that latter step in the causal chain (the agent’s decision or act of willing) cannot be analyzed as a form of information transfer or acquisition of information.

Proponents of the new terminology might argue that the old terms “ESP,” “telepathy,” and “clairvoyance” suggest (at least superficially) that the phenomena in question are perceptual, and if so, those terms could be criticized for their theoretical bias in favor of a perceptual model of the phenomena in question. But that position would be untenable for at least two reasons. First, it has been clear for many years that the forms of ESP are unlike the perceptual processes occurring in sight and hearing (see, *e.g.*, Broad, 1935), and parapsychological theorizing has generally ignored perceptual models. So if the familiar terminology is biased in favor of perceptual models, that bias seems negligible. Second, as we have seen, the term “AC” commits a different sort of superficial sin, suggesting that the phenomena in question are all cognitions. So on that score, the old and new terms seem to be equally guilty of theoretical biases. Moreover, we have seen that “AC” also (a) countenances phenomena falling outside the domain of parapsychology, and (b) blocks a series of useful theoretical distinctions accommodated by the old terminology. Therefore, on grounds of theoretical utility (if not theoretical neutrality), the new term would seem to be a poor substitute for its predecessor.

As we have seen, advocates of the terms “AC” and “AP” claim that those expressions are, unlike their traditional predecessors, “neutral with regard to mechanisms.” But as we have also seen, that does not mean the terms are free of theoretical biases or presuppositions. (In fact, no terms are presupposition-free.) It means only that the terms do not presuppose an underlying process or structure for the two classes of phenomena. It is odd, therefore, that some would consider the new terms to have the edge here over “ESP” and “PK,” because those older terms likewise rest on no specific presuppositions regarding mechanisms. Indeed, the variety of theoretical proposals throughout this century to explain both ESP and PK (under their traditional designations) demonstrates that no such presuppositions attach to the use of those terms. In fact, this author has proposed that we understand the forms of *psi* as if they are primitive phenomena, not analyzable in terms of *any* subsidiary processes or mechanisms (Braude, 1979, 1986/1997).

Before turning to more practical or political issues, I should register my objection to another fairly widespread recent terminological convention within parapsychology. What used to be considered a subset of PK phenomena, sometimes called “bio-PK” (*i.e.*, PK on living things), many now call “DMILS” (for “direct [or distant] mental influence on living systems”). This development strikes me as less significant (and probably less pernicious) than

the proposals criticized above, but it suffers from similar flaws. “DMILS” cannot be regarded as synonymous or coextensive with “PK” or even “bio-PK,” because those terms, in principle at least, allow for the possibility of non-distant influence on one’s own body. Some have suggested that ordinary volition, for example, involves the psychokinetic action of one’s mind on one’s brain, and others have proposed that (for all we know) PK might be operative in placebo effects, self-healing, and more familiar hypnotic effects on one’s own body. My guess is that those who use the expression “DMILS” have not worried about whether that term is coextensive or synonymous with older terms and have not expected them to offer any conceptual advantage over their predecessors. Rather, they have been more concerned to describe their research in ways that sound more like mainstream science than parapsychology. But that raises a different set of issues to which we must now turn.

### **The Appeal to Political Expediency**

A predictable reply at this point would be to argue for the new terms on practical rather than theoretical grounds. One might say that adoption of the new terminology is simply a pragmatically justifiable strategy given the prevailing intellectual climate, especially in dealing with government agencies and other sources of potential funding. After all, some people’s minds and wallets will close as soon as such terms as “ESP” and “parapsychology” are mentioned. Therefore, one could argue that it would be in the best interest of parapsychology to describe research in familiar and accepted terms, or at least in terms similar to those used within conventional science.

Now I don’t deny the potential utility of this sort of strategy, at least in principle. But it seems to me that promoters of the new terminology cannot expect their creations to offer this advantage. Consider: The attempts by May and others to change parapsychology’s central terms have been published either in parapsychological journals or in non-mainstream journals (*e.g.*, the *Journal of Scientific Exploration*) that often publish papers explicitly about parapsychology. Moreover, the proposed new expressions have been explicitly presented as replacements for the politically incorrect terms “ESP,” “PK,” and “*psi*.” So those works could not be cited — much less circulated — to the funding bodies uncritically resistant to parapsychological research and put off by the mere use of the old terms. One would have to apply for funds as if these articles never existed and as if the authors had no prior history of research related to the current proposal.

In fact, research proposals submitted to mainstream sources of funding cannot include in their lists of references any works or journals whose titles or text contain the dreaded terms. For at least a long while (until a body of research accumulates that is reported using only the new terminology), researchers would have to pretend that their work had virtually no historical antecedents, much less the history of replication and meta-analyses to which parapsycholo-

gists are so fond of referring, and which they recognize is often important to cite when applying for research funding.

Moreover, it would be naive to think that skeptics, critical of the work described using the old terminology, will suddenly stop protesting once the work gets described in the new terms. Indeed, it would be naive to think that funding agencies and critics will be oblivious to the fact that the authors of the proposals have previously been engaged in parapsychological research. Some, if not most, will know who the researchers are and will recognize that the proposals are continuous (if not identical) with those they previously dismissed in virtue of being parapsychological. So one might even expect them to object that the work in question is still voodoo science parading as respectable research. In fact, Alcock (1990) has already set a precedent for this maneuver.

Like it or not, the truth is that parapsychologists are doing parapsychological research, no matter how it is described. It fools virtually nobody (at least not for very long) to pretend otherwise. A more honest and intellectually courageous course of action would be to take pride in the work and also in its conceptual and empirical lineage. By attempting to disguise what they are doing and by disowning the historical roots of their research, parapsychologists would inevitably appear as if they really have something to be ashamed of. And of course, that is not an attitude that is likely to attract funding from within the mainstream scientific community.

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### References

- Alcock, J. E., (1990). *Science and Supernature: A Critical Appraisal of Parapsychology*. Buffalo: Prometheus.
- Braude, S. E. (1979). *ESP and Psychokinesis: A Philosophical Examination*. Philadelphia: Temple University Press.
- Braude, S. E. (1986/1997). *The Limits of Influence: Psychokinesis and the Philosophy of Science*. New York & London: Routledge. Revised Edition, Lanham, MD: University Press of America.
- Broad, C. D. (1935). Normal cognition, clairvoyance, and telepathy. *Proceedings of the Society for Psychological Research*, 42, 397.
- Eisenbud, J. (1992). *Parapsychology and the Unconscious*. Berkeley: North Atlantic Books.
- Luria, A. R. (1968/1987). *The Mind of a Mnemonist*. Cambridge and London: Harvard University Press.
- May, E. C. (1996). The American Institutes for Research review of the Department of Defense's STAR GATE program: A commentary. *Journal of Scientific Exploration*, 10, 89.
- May, E. C., Lantz, N. D., and Piantineda, T. (1996). Feedback considerations in an omalous cognition experiments. *Journal of Parapsychology*, 60, 211.
- May, E. C., Spottiswoode, S. J. P., Utts, J. M., and James, C. L. (1995). Applications of decision augmentation theory. *Journal of Parapsychology*, 59, 221.
- May, E. C., Utts, J. M., and Spottiswoode, S. J. P. (1995a). Decision augmentation theory: toward a model of an omalous mental phenomena. *Journal of Parapsychology*, 59, 195.
- May, E. C., Utts, J. M., and Spottiswoode, S. J. P. (1995b). Decision augmentation theory: Applications to the random number generator database. *Journal of Scientific Exploration*, 9, 453.

- Palmer, J. (1986). Progressive skepticism: A critical approach to the *psi* controversy. *Journal of Parapsychology*, 50, 29.
- Palmer, J. (1987). Have we established *psi*? *Journal of the American Society for Psychical Research*, 81, 111.
- Palmer, J. (1988). Conceptualizing the *psi* controversy. *Parapsychology Review*, 19, 1, 1.
- Palmer, J. (1992). From survival to transcendence: reflections on *psi* as anomalous. *Journal of Parapsychology*, 56, 229.
- Thouless, R. H. and Wiesner, B. P. (1948). On the nature of *psi* phenomena. *Journal of Parapsychology*, 12, 192.
- Utts, J. (1996). An assessment of the evidence for psychic functioning. *Journal of Scientific Exploration*, 10, 3.

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