GUEST EDITORIAL

Reflections on the Experimenter Problem in Parapsychology

This has been a very difficult editorial to write, as I want to advance our field, but fear I will inadvertently offend my valued colleagues, so please, give me some space here.

I began my first formal parapsychology experiment in the fall of 1956, while still a student at MIT, trying to produce veridical out-of-body experiences with hypnosis. I was thrilled to be supported by my first grant, from the Parapsychology Foundation. With the retrospective wisdom of age, I can say the design and execution was quite good for a self-taught young man hardly out of his teens, and although the planned evaluation was crude, our field hadn't really gotten good at the art of objective evaluation of qualitative results back then. At a more personal level, for more than 50 years I have been able to use the appellation so exalted in scientific circles, Experimenter, E. I will stick with the abbreviation E here, for not only are acronyms and abbreviations part of the jargon of science, E carries implications of status, intelligence, and objectivity in science, and I want us to keep those imputed qualities in mind as I share some reflections. I have functioned in many E roles since those early days and have done a lot of thinking about my role and that of others as Es. Some of these are difficult to express in a way that does not arouse emotional feelings and resistance, so please bear with me, knowing that my intention is to help advance our field.

Worldview and Experimental Design

The classical, materialistic worldview that modern science evolved and is largely rooted in is very convenient for developing current sciences. Materialism assumes that nothing exists but material objects, whose properties can be or are known, interacting in lawful ways through known kinds of physical energies. A billiard ball, as a classic example, lies still on the table top, subject to the law of inertia. When it is hit it acquires the energy of movement in a precise way determined by the angle it was struck at, the material it's composed of, the material of the cue, the intensity and exact direction of the force it was struck with, and so on. The law of inertia says a still object remains still until acted upon by a force, then once in motion remains in motion until acted upon by other forces. So the ball rolls, energy slowly being drained by the friction of the table top, and then, for this example, eventually it comes to rest again. Every parameter of material objects and forces can be measured and/or calculated with precision, and Newtonian mechanics ties it all together for both precise understanding and practical control. Physics is an "easy"

science in allowing all relevant forces and matters to be measured and calculated.

Let a person sit on that table top and life gets much more complicated. Like a material object with physical inertia, he or she may sit there unmoving until struck by something, but just as or more likely, may move on his or her own volition, unrelated to known external forces or stimuli. And if you hit the person with a pool cue, you are likely to get a far more complex reaction than rolling across the table! The study of people, psychology, is a much "harder" science than a field like physics, as it's often quite difficult or impossible to specify either the nature of the "material," the person, or the "forces"—the mechanical forces, stimuli, and communications to the person.

We have made some progress in developing a psychology by making things somewhat more like a physics experiment. We can put our test subject, S, in an isolated, quiet room, that is, with no other external stimuli/forces applied to the person than what the Experimenter, E, says to him or her, and we can deliberately limit what we will observe, such as only the person's verbal responses to what E says, ignoring the physical movements. S is still being "moved" in ways by his or her own internal stimuli, thoughts, and feelings, and his or her particular interpretations of what E says, so this makes a single trial in this psychological experiment much more variable in outcome than a physics experiment hitting a billiard ball, but we can cleverly do this experiment with many Ss and average the results, dismissing all the real, live idiosyncrasies of our Ss as "noise," and so we may find, on average, a significant relationship between stimulus and response. We don't get the precision of, "If the cue strikes the ball head on with exactly .3 foot pounds of force, the ball always rolls 3.5 ± .08 feet before friction brings it to a halt," but we might find a statistically significant tendency for Ss to speak in a certain way when E says certain things to them.

Note the importance—or lack of it—of E in these two scientific endeavors. In the classic physics study, all that is required of E is that he or she can set up the apparatus so the ball is hit with a measured force and that he or she can accurately measure how far it rolls. Other than that, the various human qualities of E are irrelevant. In the psychology experiment, on the other hand, the sensorily perceivable qualities of E may be very important and might have more effect on what S does than the formal experimental stimulation. In this paper I am going to specifically talk about SPE, E as sensorily perceived by the subject, as opposed to E, the concept of any kind of experimenter. If you are S, for example, and SPE reminds you strongly of someone you greatly dislike, you might be able to overcome this and just try to be a "good" experimental S, but then you might not and your responses will be colored by this mood. We want to study the relationship between the stimulation and the response, though, not have it biased by Ss' reaction to SPE. One solution might be to have SPE act in as neutral a fashion as possible—which may itself be upsetting to some Ss—or to run the experiment over and over with a wide variety of SPEs and Ss, trusting that, in the long run,

these idiosyncratic, human reactions balance each other out. That course has much to be said for it when you have lots of SPEs and Ss available.

Now let's do a parapsychological study. The basic design is simple. Using all we know about the physics of the material world, set up a situation where an event of interest cannot happen. For example, ask an S, acting, hopefully, as a psi-using percipient, to tell you the order of a randomized deck of cards being looked at in a locked room in a building a mile away by an agent trying to mentally send their identity. S may guess at cards in our materialistic worldview, and will score somewhere around chance level. There is no visual line of sight to identify the cards, no telephone or radio link, and even if the agent shouted out the identity of each card, at a mile range inside a separate building, our reliable knowledge of the physical world tells us that the percipient cannot hear the agent because the agent's words attenuate in intensity roughly with the square of the distance between the buildings and quickly fall below the inherent noise level of the air (Brownian motion), so information cannot be retrieved by the percipient from the agent's shouts. If we get significant identifications often enough to reasonably dismiss chance, we have a paranormal phenomenon, what we usually call telepathy. This has happened in many experiments in our field.

What is SPE's role in a parapsychological study? Everything about SPE in a psychological study applies, of course; this is a human interaction. From these physically mediated interactions we would expect variation in how successful different SPEs might be in eliciting psi from their Ss. Some long-term or short-term characteristics of various SPEs might put Ss in cooperative, psi-facilitating states, others in psi-inhibitory states, others in neutral states with no real effect on Ss' psi performances. For Ss with very strong psi abilities, SPEs' characteristics and styles of interaction might not make much difference; for Ss whose psi abilities are more delicate, SPEs' characteristics might be crucial to activating or suppressing them at any given time.

Variation in Psi Results for Different Es

From its earliest beginnings, the field of experimental parapsychology has had some Es who usually find statistically significant amounts of psi manifesting in their experiments, and others who usually get mostly chance results—we'll ignore Es in the middle of this distribution for simplicity. This was acknowledged early in the field by J. B. Rhine, who advised those who wanted to work in parapsychology to do some preliminary experiments to see if psi manifested in their studies: if not, they were advised to work in the more conceptual, rather than experimental, regions of our field.

My impression after half a century is that experimenter effects (E effects or E biases) are occasionally mentioned in both informal and formal communications among parapsychologists, but the mention is usually brief,

and seldom is anything formally done to explicate it or deal with it. We know that for a few of our colleagues, psi results in their experiments are routine, occasionally with large effect sizes as well as statistical significance, whereas for others, psi results are usually nonsignificant or of very small magnitude and hard to replicate. At least one experimenter, the late John Beloff, as an extreme example, had done so many experiments with chance results that many of us teased him that he was "psi-icidal"; he must be somehow suppressing psi among his subjects, for he ought to have had at least a few artifactually significant results by chance alone in all the studies he'd done!

In the 1960s there was considerable stir in mainstream psychology about E effects, specifically SPE effects, pioneered by the works of psychologist Robert Rosenthal, as well as by psychiatrist and leading hypnosis researcher Martin Orne, who termed them the implicit *demand characteristics* of experiments. Both argued that many apparent empirical findings of psychology about human nature could well be artifacts of SPE influence, with subjects implicitly figuring out what the SPEs wanted as a "correct" outcome of the experiment and complying. As mainstream investigators, they thought of this E influence as mediated by sensory cues or sensory characteristics of the experimental environment, strictly what we are calling SPE influence. As these can be controlled by suitable neutral environments and/or double-blind procedures, this kind of SPE effect is controllable. One of my own early studies on hypnosis at Stanford showed such bias, for example, but the study was redone in a way that eliminated the sensory biasing problem by using tape recorded instructions, so this aspect of the "SPE" was the same for Ss in all conditions.

I believe the concept of SPE bias and its supporting evidence was quite threatening to psychologists, however, and, to my amazement at the time, interest in SPE effects quickly disappeared from mainstream literature. I am not so amazed now, as I better appreciate the widespread irrational resistances of otherwise educated and intelligent people, and how we may consciously believe we seek truth at all costs but are actually strongly invested in protecting what we think we already know.

Note that the logic of conducting psi experiments, though, demands that in addition to SPE effects, E effects which may be mediated by psi, what we could call ΨE effects *must* be considered. If you're postulating that the subjects may use psi, how can you not postulate the ΨE may (unconsciously) use psi? We have accumulated a lot of experimental evidence that psi can be used without the user being aware of it, such as Stanford's PMIR effects or, more recently, presentiment effects. I believe that many mainstream investigators realize that this potential for ΨE bias is one of the implications of psi and is thus one of the reasons underlying irrational rejection of parapsychological evidence. Some, perhaps even many, of the conventional psychological effects that constitute the knowledge basis of psychology may actually be psi-mediated artifacts of ΨE bias. Deny the existence of psi, then you won't have to (consciously) worry about it as a source of bias in your

studies. It would not be the first time in history people have responded to a difficult problem by ignoring or suppressing it ...

Social Resistances to the Recognition of SPE and ΨE Effects

I have long felt that there is some irrational and formidable resistance, both conscious and unconscious, to recognizing, much less dealing with, SPE and ΨE effects. This is true for science/psychology in general, but we'll concentrate on parapsychology here. Let's start by looking at this on a social level.

First, there is the general social ethos of the scientific community. We scientists discover the fundamental laws of nature, laws independent of, more fundamental than, our mere human nature and whims. We can prove this by noting that these laws can be confirmed by any competent scientist, replicability. Take a fundamental law of electricity, for example, Ohm's law, which states that the voltage drop, V, across a resistor of value R is directly proportional to the current intensity, I, flowing through the circuit:

$$V = IR$$

Anyone who can operate simple electrical instruments can verify this relationship. I did so while still a teenager learning about electricity.

The idea that our data, our observations are affected by the characteristics of an SPE or ΨE, can imply, then, that you're not really discovering anything fundamental or lawful; what you're doing is prescientific at best and kind of stupid, or you're fooling yourself, at worst. For a parapsychologist to admit that he or she is possibly part of her experiment, then, can be seen as admitting to low, prescientific status and an implicit stupidity. As our field has been desperate to gain recognition as a part of mainstream science for more than a century, this is a hard admission for us to make—even if, as I believe, *it must be admitted. Es are part of our experiments, and to refuse to face up to that means uncontrolled variability, lack of understanding, and poor replicability*—factors which themselves are seized upon by critics to argue that there are no psi effects to begin with. This lack of recognition is particularly galling because our standards of experimentation, such as routine use of double-blind conditions, are notably higher than in most other fields of science.

Second, there is the individual identification of one's self as a Scientist. This is a very prestigious social role, which is why I capitalize the initial s in Scientist here. It could be expressed as "*I* am a Scientist; that means *I* am exceptionally intelligent, unbiased, and a seeker after Truth, superior to ordinary mortals. *I* am quite wonderful!" I've certainly felt this way at times, although I try not to get carried away with the feeling! This internalizes the norms of the broader scientific community, including the one mentioned above, that SPE and ΨE effects would be low status,

prescientific, unintelligent. Who wants to deliberately devalue one's self-image or undercut the impression of scientific competence one gives to other scientists or people in general? Once internalized, automatically identified with, norms and beliefs become much harder to recognize as norms and beliefs; rather, they become simple, automatically functioning *truths*. To some extent this internalization is conscious, to some extent automatic and unconscious, varying with individuals and situations.

Now let's look at possible psychological factors at an individual E level.

Individual Resistances

Suppose you are an E who often gets chance or trivial psi effects?

If you do not recognize or accept that SPEs of ΨEs (you) are part of the experiment, it feels like there is no problem. You may accept that psi exists, but in any particular experiment, you got no psi results as a result of extraneous factors beyond your control. The subject selection was messed up, or the room was too hot, or recent events gave subjects the wrong attitude, and so on. You are not responsible for the poor results, you're not to blame, and they do not reflect on you personally. You are still a Scientist, an E.

But if you are part of the experiment, unconsciously influencing it by psi, then you may be at least partially responsible for nonsignificant results, and that may say something about you. Perhaps at a nonconscious level that something is that you are afraid of psi (I certainly am at times!), or you don't like these particular Ss and are happy to see them "fail," for example? Maybe you're envious of a colleague's results and want to disprove them? Do you want to know these kinds of somethings? Do you want colleagues to think about those somethings? Do you want to lose the exalted status of E, the ruler, and be the same as those lower-level beings, subjects, Ss, who are subject to your rule?

I am being deliberately provocative in my language here as the E problem is so important—and so easily repressed ... But I have strong reservations about being provocative; I don't want to offend colleagues who are clearly fine people, yet I think it is so important that we look at all aspects of the E problem

Suppose you do have some feeling that some aspect of your self, your personality, your SPE self or your ΨE self, may be responsible for nonsignificant results? Intellectually, what to do is obvious. If you are indeed devoted to seeking truth, as your identity as a Scientist demands, you should investigate yourself (and other Es), including aspects of yourself that may be currently unconscious, to see how this works.

But wait! Under that civilized surface, aren't we all animals, beasts? And/or neurotic or psychotic? That's a widespread attitude in a culture where Original Sin and the Freudian Id have been dominant ideas for a long time. So exploring your unconscious for specific aspects affecting your

subjects' psi performance may consciously seem like a sensible idea, but once you start exploring, who knows what else may arise from that tricky, dangerous, shameful unconscious mind? How much do we want to hint at, much less admit to, socially condemned feelings like envy, anger, sexual desire, and so on? It's easier to deny that E is part of the experiment; that way E remains a Scientist, an exceptionally intelligent, rational being who is only searching for Truth!

Suppose, at the other extreme, you are an E who usually gets significant psi effects—perhaps even psi effects strong enough to be of practical value.

From what we know of depth psychology, this does not guarantee that, at an unconscious level, there are no conflicts about psi, so everything said above about the need to explore these effects and resistances to exploring such effects applies here. You may have as much resistance to psi as the E who routinely gets insignificant effects, but have a style of defense against dealing with the implications of this resistance that still allows your subjects to use psi. I've written elsewhere about the "religion of the .05 level," allowing statistically significant effects as long as they are actually quite weak, for example.

At the opposite extreme, though, there may be a problem of ego inflation. "*I* make the psi magic happen! *I* am not only an intelligent and superior Scientist, *I* have special powers! I am ΨE!" While this may be psychologically gratifying at one level, it may create other problems. Traditional spiritual development systems, for example, routinely warn their students not to pursue psychic powers because they may inflate the students' egos and destroy their progress on a path to wisdom and enlightenment. At a more ordinary level, literature and life experiences give us numerous warnings about the effects of hubris, and we all know of colleagues who have started out with a relatively sober interest in psi and then have gone off the deep end ...

Name Calling?

As I've touched on above, in writing this, I have worried that some of my colleagues will find these ideas personally offensive, and so reject them for irrational reasons, even though I think understanding and dealing with the E effect is of crucial importance for our field. Can't it sound like I'm saying that if you don't regularly get significant psi effects in your experiments, there is something wrong with you? You are psychologically inadequate? Or, emphasizing the feeling level, that I'm saying you are "bad?"

Like most of us, I want to be liked, so I have been hesitant in voicing these ideas over the years for the above reasons. I don't want to offend colleagues, people I generally respect and like, simply because they don't regularly get strong psi effects. But avoiding honest recognition of problems, whatever the reasons, does not get them solved.

I can hope to soften the personal implications of what I've said by admitting that I sometimes have gotten weak or nil psi effects in my own studies, and, perhaps even more strongly, note that in my life-long exploration of my own mind I have found most of the "bad" qualities we can fear and disapprove of from a primitive and bestial Id. I am no E "saint" criticizing E "sinners" for their lacks! Nor do my ideas mean that every colleague who routinely gets low results is full of unrecognized "bad" qualities. I imagine many of the E qualities that may be associated with low or high psi functioning in experiments will probably have few or no "moral" connotations. Short people do not do well at competitive basketball, for example; we don't condemn them for having "bad" genes.

I almost said "look down on them" rather than "condemn them," which appeals to my Puckish sense of humor, but we all know that humor has no place in serious scientific work, does it? Or did that tricky unconscious actually influence me to come up with "look down on" as a useful way of lightening the emotional tone so we won't lose the essential message? An encouraging reminder that there's a lot of goodness and delight to be found from exploring one's own mind?

To put it more directly, I hope any feelings of offense these ideas might generate will not be taken personally and will not keep my colleagues from serious consideration and development of them.

Is There Really Resistance to Admitting the E Effect?

This is all very intellectually interesting, you might think, but is there any actual evidence that there might be significant problems of resistance among parapsychologists with respect to E's psi involvement in their experiments?

I have raised these kinds of issues with colleagues off and on through the years. In 2008, in the course of discussing E effects and what to do about them on a prestigious internet discussion list of some 60 or so parapsychologists, many of whom have contributed to the experimental literature on psi, I asked who would consider donating a few hours of their time to beginning to study the E effect problem by taking some basic psychological tests. To my amazement—I'm an optimist and seldom apply my theoretical ideas about resistance to actual colleagues I know—almost none of them volunteered! A few rationalized that they didn't have the time. A day or so of time, compared to the years they have spent in the field, to start getting at what may be one of the most important variables affecting psi? It's hard not to think of this as resistance.

What to Do About E Effects

If we agree that E effects may be important determinants of whether and how strongly psi manifests in our experiments, what can we do

about them? Obviously we want to discover their particular nature and so hopefully be able to control them in ways that both minimize their negative contributions and maximize their positive ones. That is, we don't want unknown E effects increasing variability and unreliability in psi studies or suppressing psi altogether, and we do want to know how to select and/or train Es who will get stronger and more reliable psi effects in our studies.

The action that will definitively hinder rather than help us here is to continue to mostly ignore SPE or ΨE effects or deny them, for whatever reasons. If you have a broken leg, you don't want pain killers that will let you run around on it, further stressing and harming it; you want it set and splinted so it will heal. So what to do?

I can think of three main approaches, and I hope other experimenters will add to these possibilities. The first is to simply learn to measure various E characteristics and treat them as one more variable in experiments, the second is to create experimental rituals that are powerful enough to be strongly psi conducive in experiments in spite of E effects, and the third is to work with preselected psychic Ss who can function well under a wide variety of conditions, including various SPE and ΨE conditions.

E Characteristics as an Experimental Variable

There are significant practical problems in considering Es' characteristics as an experimental variable to be measured and studied. One is that there are very few Es doing parapsychological research, so it will be hard to get a large enough *N* to detect any but major effects at this time in our too small field. Another is that there are huge numbers of measures available, but we don't really know, a priori, what measures would be most useful. Nevertheless, we need to start, using our best guesses and just plain empirical fooling around.

Factors theoretically affecting how an SPE/ΨE interacts with Ss, both through normal means and through E and percipient psi, include long-term factors, the "personality" qualities of Es. Many psychological tests are available to assess these. Then there are various short-term factors manifesting in particular experiments. These could include the E's mood at the start of an experimental session *and changes during it.* If all we could assess would be starting mood, that might be very helpful, but it's important to realize these moods could change during an experimental session and such changes should be recorded. Too, conscious and unconscious mood and intention should be assessed, as they may not be the same. Situational factors, including interpersonal interactions with the percipients should also be noted. An E may react to a particular subject in unique ways, for example.

I can hear many Es protesting, though, that keeping track of all these things, especially with few Es available, means we're doing "case studies" rather than "real" experiments; this is not "real" science, it's low-class science at best. How are we going to get acceptance from the mainstream

scientific community if we go in the case-study direction? How are we going to maintain our valued self-image as real Scientists?

My response is that it's too bad if it's hard on our image. Our mainstream image is generally that we are a bunch of fools or pseudo-scientists anyway, simply by virtue of taking the reality of psi seriously, and this rejection will not be changed by doing lots of experiments that have "rigorous" controls by standards that apply to easier fields, where the laws of nature do indeed matter much more than the Es, and continuing to get lots of studies with few or no significant psi effects and having only a few Es (of unknown qualities) who regularly get strong psi effects. We will get the scientific acceptance we crave when we routinely produce strong psi effects in our studies and have the "recipe"—including the needed characteristics of the Es—for making those strong psi effects happen! The observations of individuals, interacting with Es of known characteristics, may lead to the keys for making psi work better.

Experimental Rituals That Outweigh E Effects

Some generally successful Es, such as Stephan Schwartz, stress that the entire experimental team is the mileu of an experiment, and carrying out psychological procedures, "rituals," that aim for success in manifesting psi, is crucial to actualizing such results. We indeed have some evidence that an individual's psi can be helped or hindered by others via psi, so this approach is obviously of considerable importance to explore and develop. I do not have a very good feel for group dynamics, though, so shall say no more about it here.

Trained, Talented, Psychic Subjects

There have been occasional Ss who have shown individually significant psi abilities in a variety of circumstances, working with various Es. Working with such talented Ss can overcome many of the problems of E effects. This is not as common as I think it should be in parapsychological studies, though, which, like psychology in general, tend to use Ss of no preselected ability. As I like to remind people, for better (generalizability) or worse (lack of exceptional talent), psychology can be semihumorously defined as the study of college sophomores by former college sophomores for the benefit of future college sophomores. With the level of manifested psi too often being quite low in such populations, I don't expect to see much progress in understanding or utilizing psi this way.

Returning to the example of my personal verification of Ohm's law given earlier, I think it likely that PK could, in principle, affect an electrical current, and so could create apparent "violations" of Ohm's law. But with the magnitude of micro-PK typically seen in parapsychological experiments, such deviations from Ohm's law in a circuit could only be

detected with extremely sensitive instruments. If we worked with trained, talented Ss who could produce very strong effects, we could discover our "Ohm's laws" of parapsychology, for the E effect would usually be reduced to barely detectable noise.

The Positive Prospects

I fear these reflections may be discouraging to my colleagues, being about more work to do, difficult work, when we already have enough troubles. So let me end on a positive note.

Ideally, I would like to say that my own experience as an E demonstrates the points I have been proposing here, namely that increasing knowledge of my own nature and of SPE and ΨE effects has been reflected by a steadily increasing level of psi results in my studies, but it's not that simple. I haven't done that many experimental studies, nor have I kept track of my assessed level of personal insight so I could compare the two variables over time.

Since my discovery of E bias effects in that hypnosis study almost 50 years ago, though, I have tried to always assume I am personally biased in designing or running an experiment, even though my conscious goal is the classic scientific one of getting clear, low-noise, unbiased data and logically and creatively thinking about it. I doubt that I have always been successful in knowing all the biases, hopes, and fears I brought to any particular experiment, but I do believe that admitting the possibility of such E effects has helped me design and run experiments where the possibilities of E bias effects happening are less. This has been part of a larger, life-long personal psychological study of myself, which itself has been an adventure. As touched on above, I've sometimes discovered than I'm much worse than I would like to think I am ... and sometimes much better! All in all, this psychological self-study has been quite gratifying and I think I'm a better person for it. If I were continuing to do psi experiments, rather than being semiretired and near the end of my active career, I believe I would be a better experimenter because of my growing self-knowledge. It's too late for me to "prove" that, but my hope is that others may be at least partly inspired by these reflections, added to their own experiences and thoughts, and discover what is and isn't important about E effects in parapsychology and how to use them to best advantage.

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