

Why Are (Some) Scientists So Opposed to Parapsychology?

| Mark Leary, PhD |

From the earliest days of psychic research in the late 1800s, a deep and broad schism has separated scientists who study psychic or parapsychological phenomena from those who view such outlandish investigations as outside the realm of real science. Although many of the pioneers of psychic research were noted scientists of their age, they were professionally attacked and personally ridiculed by those who viewed their work as not only misguided but also dangerous to science and society. So, from the beginning, scientists have been sharply divided both on the question of whether there is any basis for believing that psi exists and on the issue of whether research into psychic experiences can be regarded as scientific and should be pursued.

Now, over 120 years later, not much has changed. A small group of researchers continue to investigate telepathy, clairvoyance, precognition, psychokinesis, and related topics, whereas many other scientists remain disdainful. To be sure, surveys show that many scholars across various scientific fields believe that psi probably exists and that these topics should be investigated, but the strength of opposing voices is loud and persistent. Some of the criticisms sound very much like normal scientific dialogue—reasoned debates regarding research methodology, statistical analyses, and interpretations of data. But much of it has a tenor that is rarely heard in other scientific circles, involving caustic, dismissive attacks on not only the research but also the researchers themselves. Why does parapsychology evoke such strong, dogmatic reactions from so many scientists? What are critics afraid of that leads to hostile attacks as opposed to reasoned criticisms, efforts to replicate previous studies, or merely ignoring it all, knowing that sci-

ence will eventually weed out bad ideas and faulty findings?

Before exploring this question, I should note from the outset that am not a parapsychologist, have not conducted any parapsychological research, and, until a few years ago, had not thought carefully about parapsychology at all. As I learned more about the field, I became intrigued not only by the surprising (at least to me) amount of research support for psi but also by the nature of scientific debate about parapsychology. As a researcher in another area of behavioral science (social psychology) with an interest in the philosophy of science, I find the debate over the scientific status of parapsychology fascinating and quite odd.

Scientists are by nature highly skeptical, and their skepticism is absolutely essential to the scientific enterprise. All scientists endorse the idea that scientific knowledge must be based on objective evidence, and they are rightfully skeptical of claims for which no data exists. But skepticism involves being doubtful until enough data have been collected to draw a conclusion—not dogmatic insistence in a particular conclusion in the absence of data or, worse, denial of research findings that contradict that conclusion. Yet, many of the objections that scientists have launched against the study of anomalous cognition are not based on scientific evidence, and the objections are often not offered in the spirit of healthy skepticism or scientific debate. I fear that Gary Zukav was partly correct when he commented that “Acceptance without proof is the fundamental characteristic of Western religion, rejection without proof is the fundamental characteristic of Western science.” When it comes to parapsychology, many scientists are not skeptics but rather dogmatic

debunkers (or what Truzzi called “pseudoskeptics”), and my goal in this article is to consider why. Let’s consider five possible reasons.

PARAPSYCHOLOGY IS A PSEUDOSCIENTIFIC AFFRONT TO REAL SCIENCE

Most scientists who have seriously attacked parapsychology would likely say that they are objecting to parapsychology presenting itself as a scientific field when, in fact, it is not. Indeed, many critics have explicitly labeled it a pseudoscience—a field that masquerades as a science that actually violates the basic principles of scientific investigation. If parapsychology were a pseudoscience, these critics might rightfully desire to protect science and society from misguided, shoddy, nonscientific research on questionable topics. Pseudoscience is indeed a problem, and people are sometimes hurt when they follow the recommendations of pseudoscientific quacks who make claims that sound like they are based on sound science but are not. But does this charge apply to parapsychological research?

To answer this question, let us consider what makes an area of study scientific as opposed to pseudoscientific. In everyday life, people often think of science as a topic for study (as when we took “science” courses in high school). In reality, science is not defined by the topics it studies but rather by its approach to investigating those topics. If researchers apply scientific reasoning and methods to investigating a phenomenon, then the investigation is scientific no matter what is being studied. Central to the scientific approach is the requirement that the hypotheses under study must be testable and potentially dis-

confirmable. If a hypothesis can be shown not to be true by empirical evidence, then it can be tested scientifically. Most hypotheses being tested in parapsychology studies are certainly disconfirmable and by that criterion, most parapsychological research is unquestionably scientific.

Furthermore, the fact that some people do not believe that a phenomenon is real does not make research on that phenomenon pseudoscientific. Science can be used to address a wide array of questions, even questions about phenomena that ultimately turn out not to exist. In fact, one important function of science is to demonstrate empirically which effects are real and which are not. Science is indispensable in determining truth from fiction so it makes no sense to assert in advance that a study of a particular topic is not scientific because the hypothesis being tested is false! Typically, we let science take its course and let the data speak for themselves.

In any case, anyone who has read even a portion of the research literature in parapsychology could not seriously claim that research has conclusively failed to support the existence of some of these anomalous phenomena. The research evidence in support of psi is stronger than I had ever imagined, with the support for anomalous precognition and telepathy being strongest. Even if one can identify methodological problems in studies that test psi (and criticisms and questions can be raised about every study in every field), enough studies have demonstrated psi-like effects to lead true skeptics (as opposed to dogmatic debunkers) to at least ask for more evidence. Many observers have suggested that the research findings obtained by parapsychologists are so strong that they would be widely accepted with little debate if they involved phenomena that were less strange.

Of course, extraordinary claims require extraordinary proof, and I share the sense that claims about telepathy, precognition, and other psi effects do require more evidence than claims about mundane topics. But there is a large difference between tempering one's conclusions until adequate data have been collected (the skeptical perspective) and dismissing evidence unfairly, arguing that parapsychological research should not be conducted, and questioning the intelligence or motives of the scientists involved (as dogmatic debunkers do). Clearly, many debunkers' minds are made up before con-

sidering the evidence, which is itself a highly nonscientific approach. I personally do not know the truth about the topics that parapsychologists study (and many of them would say the same thing), but the proper scientific stance seems to be to wait and see rather than to pronounce judgment out of ignorance.

PARAPSYCHOLOGICAL RESEARCH DOES NOT MEET STANDARDS OF SCIENTIFIC RIGOR

What about the claim that parapsychology is not a science because its research designs and methods are especially shoddy? Certainly, critics can find flaws in parapsychological research, but again, this is true of virtually every study in every scientific field. I have yet to read any study in any area that cannot be questioned and criticized. But that's why science advances on the basis of accumulated evidence rather than single studies. Although every particular study may be suspect to some extent, the cumulative picture will tell the story. That's why meta-analyses of parapsychological studies that statistically combine the results of many different studies are so important and persuasive. Although every study may have its weaknesses, we can see the overall picture beyond the idiosyncracies of any particular piece of research.

In any case, my reading of the research literature suggests that parapsychologists are among the best experimentalists in science because they know that they must design more sophisticated, bias-proof studies than scientists in other fields in order to be believed. (Only in parapsychology have I ever seen a quadruple-blind experiment. Usually, double-blind studies are considered sufficient.) As a result, their research designs are as tight, if not tighter, than those in more accepted areas, and they are often more critical of each others' work than is typical in science. They know that critics will question every aspect of their research designs and analyses and thus work extra hard to design convincing studies.

My point is not that parapsychological research is water-tight. Rather, I only wish to note that the strong and emotional criticisms that have been leveled against parapsychology apply equally, if not more so, to other areas of scientific investigation (including mine). Furthermore, although all scientists regard certain areas of re-

search in their own fields as questionable or poorly conducted, they rarely launch venomous attacks on the areas and even more rarely do they ridicule the investigators. Generally, scientists believe that weak theory and research will be exposed through further investigation.

FAILURE TO UNDERSTAND MECHANISMS

Many people dismiss parapsychological research because they cannot begin to imagine what processes might produce the observed effects. When research findings suggest that people can send information telepathically to someone several miles away or that a person seated in a sealed room in Washington, DC can "see" inside a Russian military installation, we are left with mind-boggling questions about the processes and mechanisms that could possibly produce these effects.

But the failure to understand the processes that produce psi does not strike me as a reason to reject parapsychology as an inherently bad idea. Many phenomena in other sciences are accepted as real despite the fact that no one yet understands why they occur. (In fact, many of us take medicines that are known to be effective even though biomedical researchers do not understand why they work.)

If parapsychologists someday identify exactly how such things happen, many more people will start to believe in their findings. But at this time, no one has the slightest clue how such things work, even though some researchers talk loosely about the possibility that quantum mechanics might someday provide an answer. In the meantime, there is nothing unusual about tentatively accepting the results of studies that we do not yet know how to explain.

ASSOCIATING PARAPSYCHOLOGY WITH UNCRITICAL, PSEUDOSCIENTIFIC, AND OCCULT BELIEFS

As a group, scientists are rational, critical thinkers who are committed to the idea that beliefs should, as much as possible, be based on empirical evidence rather than the pronouncements of authority figures, untested cultural ideas, myths, personal hunches, or unexamined ideas. Furthermore, most scientists believe that people

would be better off if they were more critical and less gullible, and I wholeheartedly agree.

Unfortunately, in the minds of many critics, the phenomena studied by parapsychologists are lumped together with “fringe” and “occult” topics such as alien abduction, astral projection, astrology, crystal healing, ancient astronauts, nature spirits, Bigfoot, and Tarot—topics that they also dismiss. (Look where most bookstores typically shelve books on parapsychology, and you’ll see what I mean.) Scientists fret about the fact that many people uncritically accept the reality of these things with little or no skepticism and without any scientific basis. But many scientists fail to distinguish between unconventional topics that do versus do not have scientific support and thus consider parapsychology and alien abductions equally suspect. However, if they looked at the evidence, they would find that parapsychological phenomena have far more scientific support than most of these other topics.

It may also be that some scientists balk at the apparent connections between parapsychology and questions of spirituality and religion. Since Galileo’s historic run-in with the church over a conflict between religious doctrine and scientific observation, scientists have spent centuries ridding science of religious influence, and most people today consider science and religion as quite separate spheres. Because psi effects have sometimes been explained in terms of nonmaterial forces that sound much like spiritual concepts, many scientists, even those who may be personally religious, see dangers ahead. These dangers seem even more apparent when researchers delve into questions that might relate to survival after death, as in studies of apparitions and mediums. Of course, modern parapsychologists do not offer religious or spiritual explanations for their findings, and most are as eager to distance

themselves from religious doctrine and spiritual concepts as mainline scientists. But still, the implied connection between parapsychology and spirituality creates a knee-jerk reaction for some critics.

FEAR AND DISCOMFORT WITH UNCERTAINTY

Finally, I come to what is perhaps the most interesting source of scientific objections to parapsychology. Scientists do not typically become inflamed over other scientists’ research programs that they think are dead ends or poorly designed. Instead, they quietly and professionally voice their criticisms, conduct their own research to support their points, and wait for the self-correcting process of science to run its course. The fact that many attacks on parapsychology are highly dogmatic and emotional and couched in ridicule and intimidation rather than scientific argument suggests that parapsychology threatens something quite important to these critics. That something may be their grasp of reality.

Each of us carries a view of how the world is supposed to work, and experiences that disconfirm that worldview are highly troubling. Everyone experiences threats to these views from time to time in both small and large ways, and accommodating to them is one mark of psychological adjustment. But few threats are as potent as realizing that one’s fundamental assumptions about the nature of reality may be wrong. Even a small crack in one’s worldview not only requires a cascading revision of one’s personal beliefs but also takes away forever one’s certainty that one’s worldview is correct. If we know that we were badly wrong in our assumptions about reality once, how can we ever be sure that we’re right again?

Many scientists face a double-whammy in this regard. Not only do they personally not believe that people can read each others’ minds or influence physical events through

intention, but their scientific training usually promotes a materialistic, mechanistic, and deterministic view of the universe, all of which might be called into question if it can be irrefutably demonstrated that people can communicate mentally, see the future, mentally travel to distant locations, or, worse, communicate with the dead.

I can readily identify with the intellectual difficulty of accepting most of parapsychology’s claims. I have a tremendous amount of trouble understanding how any of it can be true. Yet I also see the results of decades of well-designed research suggesting that psi might in fact occur and, from a scientific perspective, I don’t have the luxury of simply ignoring research findings that make me uncomfortable, and I don’t think I would be justified in condemning researchers who study such things. Rather, the scientist in me has to seriously consider the available evidence while maintaining a healthy dose of skepticism to guard against mindless acceptance of biased findings.

Although it is very easy to understand people’s reluctance to accept the findings of parapsychology, I find it harder to understand why anyone would suggest that such research should not be conducted or that researchers in the field are misguided or irrational. Even people who do not believe in psychic phenomena should want additional research to provide an answer once and for all. The questions are so interesting and potentially important that we really should know the answers, however they may fall.

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