

*Workings
notes
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Frequently Asked Questions (FAQ) about Parapsychology
DRAFT 3

WHO COMPILED THIS FAQ?

This FAQ was compiled by an ad-hoc group of scientists and scholars interested in parapsychology, the study of what is popularly called "psychic" phenomena. The disciplines represented in this group include physics, psychology, philosophy, statistics, mathematics, computer science, chemistry, anthropology, and history. The major contributors and their affiliations are listed at the end of this document.

The majority of this group are members of the Parapsychological Association (PA). The PA is an international professional society founded in 1957 and elected an affiliate of the American Association for the Advancement of Science in 1969. While this FAQ is not an official publication of the PA, the contributors do include several past-Presidents of the PA, including the current (1995) President, and past and present members of the Board of Directors of the PA. The authors' cumulative research experience with parapsychological topics is estimated at over 400 years.

The group aimed for consensus on each FAQ item, but as in many intellectual pursuits, especially in young, multidisciplinary domains, there were some sharp disagreements. In spite of these disagreements, the authors believe that because of burgeoning public interest in parapsychology, the relative lack of reliable information, and the many myths and distortions associated with this field, it was important to put some basic information on the World Wide Web sooner rather than later.

We plan on eventually providing a comprehensive source of information on parapsychology, including details on the major topics of debate, the prevailing theories, discussions of empirical evidence, links to journal papers, reference sources, and so on. In addition, the FAQ will eventually include links to mission statements and photos from the major parapsychological research centers, individual researchers' home pages, and home pages for relevant scientific and scholarly societies.

To submit questions for this FAQ, send email to <dradin@nevada.edu> ← *mailto: ucl **

WHO IS THE INTENDED AUDIENCE?

This FAQ was written as a general introduction to parapsychology for individuals ranging from advanced high-school students to professionals with little or no background in parapsychology. Writing for such a broad audience is a challenge, because gaining an appreciation of parapsychology today requires specialized knowledge including advanced statistics, specialized experimental design, quantum mechanical theory, artificial intelligence techniques, the sociology and philosophy of

science, and specific historical knowledge.

Because our expected audience is so broad, we decided to avoid most of the technical issues and specialty topics. Of course, this means we must also skip over many interesting subjects and debates within the field. Therefore, the approach here is to clarify the complex topic of parapsychology without glossing over important points and without "dumbing down" the basic content. For a few particularly tricky issues that we did wish to cover here, we've included sections labelled "Technical Note."

TECHNICAL NOTE: AUDIENCE

The content and style of this FAQ sparked a vigorous debate among the authors. At least five potential audiences were identified: physical scientists, social and behavioral scientists, hardened skeptics, New-Age enthusiasts, and readers with little or no background in one of the conventional sciences or in parapsychology.

For physical scientists, we felt it was important to discuss methodology and terminology, and comment on some common criticisms of parapsychology. It was less critical to discuss implications of the phenomena. For social and behavioral scientists, we focused on the psychological and sociological implications of the fact that people throughout history and across all cultures have reported psychic experiences. We also added some of the implications of the phenomena.

For hardened skeptics, or people whose knowledge of parapsychology is based solely upon the skeptical literature, we felt it was important to address the fact that there is substantial, scientifically persuasive empirical data available. For people with New-Age interests, enthusiasms, or assumptions, we felt that at least part of the purpose here would be to indicate the limits of what the scientific data actually justify. And for readers or high school students who know little or nothing about the topic, or about science and scientific methods, we've applied a broad-brush approach to cover as much of the field as possible in a single document. (Hyperlinks added in future editions will help flesh out this FAQ.)

WHAT IS PARAPSYCHOLOGY?

Parapsychology is the scientific and scholarly study of unusual events associated with human experience. These events seem to fall outside the nature of purely subjective or purely objective experience.

A long-held, common-sense assumption is that the worlds of the subjective and objective are completely distinct, with no overlap. Subjective is "here in the head," and objective is "there out in the world." Parapsychology is the study of phenomena suggesting that the strict subjective/objective dichotomy may instead be part of a spectrum, with some phenomena occasionally falling between purely subjective and purely objective. We call such phenomena "anomalous" because they are

difficult to explain with current scientific models.

These anomalies fall into three general categories: ESP (terms are defined below), PK, and phenomena suggestive of survival after bodily death, including near-death experiences and apparitions. Most parapsychologists today expect that further research will eventually explain these anomalies in scientific terms, although it is not clear whether they can be fully understood given the current state of scientific knowledge.

WHAT IS NOT PARAPSYCHOLOGY?

In spite of what the media often imply, parapsychology is not the study of "anything paranormal" or bizzare. Nor is parapsychology concerned with astrology, UFOs, searching for Bigfoot, paganism, vampires, alchemy, witchcraft, or spontaneous human combustion.

Many scientists view parapsychology with great suspicion because the term has come to be associated with a huge variety of mysterious phenomena, fringe topics, and pseudoscience. Parapsychology is also often linked, again inappropriately, with a broad range of "psychic" entertainers, magicians, and self-proclaimed "paranormal investigators."

WHAT DO PARAPSYCHOLOGISTS STUDY?

Parapsychology is the study of unexplained phenomena associated with consciousness and the mind. Perhaps the strangest, and most intriguing, aspect of these phenomena is that they do not appear to be limited by the known boundaries of space or time. In addition, they blur the sharp distinction usually made between mind and matter. In popular usage, the basic parapsychological phenomena are categorized as follows:

Telepathy Direct mind-to-mind communication.
Precognition Also called prescience or premonition. Obtaining information about future events, where the information could not be inferred through normal means. Many people report dreams that appear to be precognitive.
Retrocognition Obtaining information about past events, where the events were previously unknown to the percipient.

Clairvoyance Also called remote viewing; obtaining information about events or objects at remote locations, beyond the reach of the normal senses.

ESP Extra-sensory perception; a general term for obtaining information about events beyond the reach of the normal senses. This term subsumes telepathy, clairvoyance, precognition, and retrocognition.

Psychokinesis Also called PK; direct mental interaction with physical objects, animate or inanimate.

Bio-PK Direct mental interactions with living systems.

NDE Near death experience; an experience reported by those who were revived from nearly dying.

OOBE Out-of-body experience; the experience of feeling separated from the body, often accompanied by visual perceptions as though from above the body.

Reincarnation Reports, typically from children, of previously living other lives.

Haunting Reports of apparitions (ghosts, or spirits of disembodied persons).

Poltergeist Large-scale PK phenomena often attributed to spirits, but which are now thought to be due to a living person, frequently an adolescent.

Psi A neutral term for parapsychological phenomena. Psi, psychic, and psychical are synonyms.

TECHNICAL NOTE: BASIC TERMS

The above terms are representative of common usage, but it is worth noting that parapsychologists usually define psi phenomena in more neutral or operational terms. This is because labels often carry strong but unstated connotations that can blind us to the true nature of the phenomena.

As an example, "telepathy" is commonly thought of as mind-reading. However, in practice, and certainly in laboratory research, experiences of telepathy rarely involve perception of actual thoughts, and the experience itself often does not logically require communication between two minds, but can also be "explained" as clairvoyance or precognition. It is important to keep in mind that the names and concepts used to describe psi actually say more about the situations in which the phenomena are observed, than about any fundamental properties of the phenomena themselves. That two events are classified the same does not mean they are actually the same.

In addition, in scientific practice many of the basic terms used above are accompanied by qualifiers such as "apparent," "putative," and "ostensible." This is because many claims supposedly involving psi may not be due to psi, but to normal psychological or misinterpreted physical reasons.

WHY IS PARAPSYCHOLOGY INTERESTING?

Parapsychology is interesting mainly because of the implications of the phenomena. To list just a few examples, psi phenomena suggest (a) that what science knows about the nature of universe is seriously incomplete; (b) that the presumed capabilities and limitations of human potential

have been seriously underestimated; (c) that fundamental assumptions and philosophical beliefs about the separation of mind and body may be incorrect; and (d) that religious assumptions about the divine nature of "miracles" may have been mistaken.

As an aside, we should note that many parapsychologists today, including most of the authors of this FAQ, take an empirical, data-oriented approach to psi phenomena, and specifically avoid discussing speculative implications that are not supported by data. However, some researchers regard the current findings of parapsychology as having a wide variety of important implications, including implications about the spiritual nature of humankind. Thus, in deference to the broad readership expected of this document, we decided to discuss some of the implications of psi, recognizing that this topic is more speculative than most.

In general, physicists tend to be interested in parapsychology because of the implication that we have a gross misunderstanding about space and time and the transmission of energy and information. Biologists are interested because psi implies the existence of additional, unexplained methods of sensing the world. Philosophers are interested because psi phenomena rigorously address many age-old philosophical problems, including the role of the mind in the physical world, and the nature of the objective vs. the subjective.

Theologians and the general public tend to be interested in psi because of its possible spiritual implications. Historically, one of the reasons for the founding of psychical research in the late 1800's, a precursor to modern parapsychology, was to seriously address the growing rift between religious ideology and the rise of materialistic science. At that time (late 19th century), religion was increasingly being viewed by scientists as a collection of mere superstitions and irrational ideologies, and yet the essence of religions (as opposed to their political structures and the horrors committed in the name of religion) were also a major source of values and ethics that helped to formulate and preserve civilization.

The founders of psychical research wondered if the methods of science that had worked so well in the physical world might be applied to the phenomena of spirituality and religion, and thereby help to discriminate what was real and possibly vital, from nonsense.

From the materialistic perspective, which is one of the foundations of the scientific worldview, human conscious is nothing but an emergent product of the functioning of Brain, Body, and Nervous System (BBNS). That is, no matter how different mind may seem from solid stuff like bodies, it is generated solely by the electrochemical functioning of the BBNS, and so it is absolutely dependent on it. When the BBNS dies, so does consciousness. Therefore, claims of survival of bodily death, or ghosts, or apparitions, are due to wishful thinking, because such things are nonsense. Furthermore, the limits of material functioning automatically determine the ultimate limits of mental functioning, thus the ideas of ESP and PK are also impossible.

appear
not sure
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(leave the door open...)

Some see the above view, which is based upon prevailing scientific models, as leading to a nihilistic philosophy of "Eat, drink and be merry, for tomorrow we die!" Modern restatements of this philosophy, which underlie much of the Western world's instant-gratification, consumer-oriented mentality, are sayings such as: "Look out for Number One," or as in advertisements, "You only go around once in life, so grab for the gusto." Sweeping approval of the "grabbing the gusto" idea drives much of the interest in medical research on longevity.

Psi phenomena, however, do not seem to fit well into the common sense universe originally described by Isaac Newton and Rene Descartes in the 17th century, and now, after three centuries of development, widely adopted as the "scientific view." Psi phenomena, which have occurred in all cultures throughout history, have been and continue to be interpreted as supporting the idea that there is something more to mind than the BBNS, that there is some sort of "soul," or the like. This "non-physical" aspect of human beings, an aspect that does not seem to be as tightly bounded by space or time as scientific models predict, might survive bodily death, and seem to create real and vital linkages between people. From this viewpoint, "No man is an island" is not just a metaphor, it is true in some deep sense. Likewise, "Looking out for Number One" is not just selfish, it is impossible, because Number One's happiness is not really separable from the happiness of all others.

As a young discipline, parapsychology is a long, long way from being able to say that "the data shows that Xists" (insert your favorite religious group here) are specifically right about religious doctrines A, B, and C but dead wrong about dogmas P, Q and R. But some parapsychologists today feel that the data generated by scientific methods are now clear and persuasive enough to give general support to the idea that consciousness seems to be more than merely BBNS, and by inference, there may be important truths contained in some spiritual ideas and practices.

We must emphasize, however, that even those researchers who maintain a strongly personal, spiritual worldview, believe that parapsychology, practiced as a science, must adhere strictly to widely accepted scientific principles and procedures. In other words, one can be a competent scientist, doing legitimate science, without uncritically accepting that materialistic, positivistic approaches are the only valid roads to truth.

We must further emphasize that there is a big difference between simply noting that the findings of parapsychology may have implications for spiritual concepts, versus the idea that parapsychologists are driven by some (partly) hidden spiritual agenda. Some critics of parapsychology seem to believe that all parapsychologists have hidden religious agendas, and that they are really out to prove the existence of the soul. This is no more true than claiming that all chemists really harbor secret ambitions about alchemy, and their real agenda is to transmute mercury into gold. The reasons why serious investigators are drawn to any discipline are as diverse as their backgrounds.

Some
WHAT ARE THE PRACTICAL APPLICATIONS OF PSI?

Studies of direct mental interaction with living systems suggest that traditional mental healing techniques, such as prayer, may be based on genuine psi-mediated effects. In the future it may be possible to develop enhanced methods of healing based on these phenomena.

Psi may be involved in Murphy's Law: "If anything can go wrong, it will." That is, modern machines based upon sensitive electronic circuits, such as copiers and computers, may at times directly interact with human intention, and as a result, inexplicably fail at inopportune times. Of course, the converse may also be true. That is, the possibility exists to repair, or to control sensitive machines solely by mental means. Such technologies would significantly benefit handicapped persons.

Other applications include improved methods of making decisions, of locating missing persons or valuables, and of describing events at locations we cannot go to because of distance, time, or accessibility. This includes the possibility of psi-based historians and forecasters.

Highly developed psi abilities may benefit psychotherapy and other forms of counseling. Psi has been successfully applied to provide a statistical edge in the financial markets and in locating archeological treasures. Research is currently in progress to develop a psi-based, mentally operated switch.

WHAT ARE THE MAJOR RESEARCH APPROACHES?

As in any multidisciplinary domain, there are many ways of conducting research. The five main methods used in parapsychology are:

- (1) Scholarly research, including discussion of philosophical issues and historical surveys.
- (2) Analytical research, including statistical analysis of large databases.
- (3) Field research, including case investigations of psi experiences and comparisons of cross-cultural beliefs and practices related to psi.
- (4) Theoretical research, including mathematical, descriptive and phenomenological models of psi.
- (5) Experimental research, including laboratory studies of psi effects.

Although all five of these approaches contribute to the field, today the primary source of "hard evidence" in parapsychology is controlled laboratory experiments. By applying the exacting standards of scientific method, researchers have developed an increasingly persuasive database for certain types of psi phenomena over the past six decades.

Several major experimental paradigms have been developed during this time, and a select few experiments have now been repeated hundreds of times by dozens of researchers, world-wide. Sometimes these experiments are conducted as strict replications, but more often they are conceptually similar experiments that add controls or extend the range of questions addressed.

WHAT ARE THE MAJOR PSI EXPERIMENTS TODAY?

Through popular books and portrayals of parapsychology in movies like "Ghostbusters," many people assume that psi experimenters today primarily use "ESP cards." This is a deck of 25 cards, with five repetitions of five cards showing symbols of a square, circle, wavy line, triangle, or star. While such cards were used extensively in early psi experiments, mainly by J. B. Rhine and his colleagues from the 1930's through the 1960's, they are rarely used today. Four of the most prolific and persuasive of the current experiments are the following:

PK ON RANDOM NUMBER GENERATORS

The advent of electronic and computer technologies has allowed researchers to develop highly automated experiments studying the interaction between mind and matter. In one such experiment, a Random Number Generator (RNG) based on electronic or radioactive noise produces a data stream that is recorded and analysed by computer software.

In the typical RNG experiment, a subject attempts, upon instruction, to change the distribution of the random numbers, usually in an experimental design that is functionally equivalent to getting more "heads" than "tails" while flipping a coin. Of course the electronic, computerized experiment has many advantages over earlier research using, e.g., tossed coins or dice. In the RNG experiment, great flexibility is combined with careful scientific control and a high rate of data acquisition. The resulting database, compiled over the past 40 years by nearly 80 researchers, provides clear evidence that human consciousness, specifically mental intention, can change the statistical behavior of random physical systems. <Reference link>

PK ON LIVING SYSTEMS

This has also been called bio-PK, and more recently some researchers refer to it as Direct Mental Interactions with Living Systems (DMILS). The ability to monitor internal functions of the body, including nervous system activity using EEG and biofeedback technologies, has provided an opportunity to ask whether biological systems may also be affected by intention in a manner similar to PK on RNGs.

A DMILS experiment that has been particularly successful is one that looks at the commonly reported "feeling of being stared at." The "starrer" and the "staree" are isolated in different locations, and the starrer is periodically asked to simply gaze at the staree via closed circuit video links. Meanwhile the staree's autonomic activity is automatically and continuously monitored. The cumulative database on this and similar DMILS experiments provides strong evidence that one person's attention directed towards a remote, isolated person, can significantly activate or calm that person's nervous system, according to the instructions given to the starrer. <Reference link>

TELEPATHY IN THE GANZFELD

One theory about how perceptual psi works is that the psi "signals" are often present in the brain, but they are difficult to attend to because of the noise of normal sensory input. The ganzfeld ("whole field") technique was developed to quiet this external noise by providing a mild, unpatterned sensory field to mask the noise of the outside world. In the typical ganzfeld experiment, the telepathic "sender" and "receiver" are isolated, the receiver is put into the ganzfeld state, and the sender is shown a video clip or still picture and asked to mentally send that image to the receiver.

The receiver, while in the ganzfeld, is asked to continuously report aloud their mental processes, including images, thoughts, feelings. At the end of the sending period, typically about 20 to 40 minutes in length, the receiver is taken out of the ganzfeld, and shown four images or videos, one of which is the true target and three are non-target decoys. The receiver attempts to select the true target, using their perceptions during the ganzfeld state as clues to what the mentally "sent" image might have been. With no telepathy, chance expectation allows us to predict that the correct target would be selected about 1 in 4 times, for a 25% "hit rate." After scores of such experiments, presently totalling about 700 individual sessions conducted by about two dozen investigators, world-wide, the results show that the target image is selected on average 34% of the time. This is a highly significant result, suggesting that telepathy, at least as operationally defined in this experiment, exists. <Reference link>

REMOTE VIEWING

The ganzfeld technique indicates that information can be exchanged mentally by sending it from one person to another. The remote viewing experiment, in one of its many forms, investigates whether information can be gained without a sender. In a typical remote viewing experiment, a pool of several hundred photographs are created. One of these is randomly selected by a third party to be the target, and it is set aside in a remote location. The experimental participant then attempts to sketch or otherwise describe that remote target photo. This is repeated for a total of say, 7 different targets. Many ways of evaluating the results of this test have been developed, including some highly sophisticated methods. One common (and easy) method is to take the group of seven target photos and responses, randomly shuffle the targets and responses, and then ask independent judges to rank order or match the correct targets with the participant's actual responses. If there was real transfer of information, the responses should correspond more closely to the correct targets than to the mismatched targets.

Several thousand such trials have been conducted by dozens of investigators over the past 25 years, involving hundreds of participants. The cumulative database strongly indicates that information about remote photos, actual scenes, and events can be perceived. Some of these experiments have also been used to successfully study precognition by having a participant describe a photo

that would be randomly selected in the future. <Reference link>

TECHNICAL NOTE: METHODOLOGY

Parapsychology uses methods commonly employed in other scientific disciplines. Laboratory studies use research methods from psychology, biology and physics. Field research uses methods from sociology and anthropology. There are plenty of textbooks on research methods in these fields, and we won't attempt to summarize them here.

What's special about parapsychology is the need to pay very close attention to "conventional" explanations. This is because we've defined psi phenomena as exchanges of information that do not involve currently known (i.e., conventional) processes. For instance, we talk about "ESP" when people know about things going on in their environment without getting the information by seeing, hearing, touching, smelling, or through any other known sensory input, or without being able to figure out the "target" information. We talk about "PK" when physical systems appear to react to people's intentions and there's no known physical contact between the person and the "target." Words like "without," and phrases like "no known," show up a great deal in descriptions of psi phenomena.

Therefore, an important part of parapsychological research is eliminating known contact methods from laboratory setups and thinking carefully about them when evaluating reports of people's experiences. In ESP research, this requires knowing about the psychology of sensation, perception, memory, thinking, and communication, and about the biology and physics of sensation and movement. In PK studies, it is important to know about the physical characteristics of the "target," how it works, and what might affect it. In field studies, and in most laboratory studies, it's important to know about the ways in which people can interact with each other. Of course, in field studies it is much more difficult to eliminate conventional explanations than it is in the laboratory because you can't set things up beforehand to eliminate conventional contact between the people and the "targets."

Even when known contact methods are well controlled or eliminated, there is always the possibility that what we observe could have occurred by chance. That is, a person's apparent ESP knowledge about some distant event might be a random guess that just happens to resemble the target. Or, what looks like a PK effect on a physical system might be a random change in that system that just happens to occur at the right time. So it's important to measure how likely it is that the event could have occurred by chance and know how to decide when that's so unlikely that it makes more sense to think there really was some kind of psi contact.

Sometimes field research is not concerned with whether the experiences people report were really psi phenomena, but instead asks questions like, "What do people report about experiences they think were psi?", "How does having these experiences affect their lives?", and "Do people's psychological or cultural characteristics influence how likely they are to interpret experiences as psi?" This is straightforward anthropological, sociological, or psychological research and does not

require the same kind of strict attention to eliminating conventional explanations.

The value of the "softer" research methods is that it investigates the experiences that people actually report. These are experiences such as precognitive dreams, out-of-body experiences, telepathic impressions, auras, memories of previous lives, hauntings and poltergeists and apparitions. Research on these issues obtains information about incidence, phenomenology, and demographic and psychological correlates of the experiences.

While the "spontaneous case research" is less technical in nature, and often more exciting to read, it is wise to avoid jumping to conclusions about the nature of psi from individual cases. Such studies examine how people report or think about their experiences, not what those experiences actually were. For example, surveys have reported that people in some cultures are more likely to report having precognitive dreams, but this does not necessarily mean that these people actually have more dreams that really are precognitive.

One important goal of the laboratory research is to determine the degree to which the field observables, or "raw psi" experiences, can be verified using current scientific methods. If verified in the lab, the major intent of the lab work shifts from "proof-oriented" research to "process-oriented," in which the goal is to discover the psychological, physiological, and physical mechanisms of each phenomenon.

WHAT ARE COMMON CRITICISMS AND RESPONSES ABOUT PARAPSYCHOLOGY?

Constructive criticism is essential in science and is welcomed by the majority of active psi researchers. Strong skepticism is expected, and many parapsychologists are far more skeptical about psi than most "outside" scientists realize.

However, it is not generally appreciated that some of the more vocal criticisms about psi are actually "pseudo-criticisms." That is, the more barbed, belligerent criticisms occasionally asserted by some skeptics are often issued from such strongly held, prejudicial positions that the criticisms are not offered as constructive suggestions, but as authoritarian proofs of the impossibility of psi.

It is commonly supposed by non-scientists that skeptical debates over the merits of psi research follow the standards of scholarly discussions. Unfortunately, this is not always the case. Disparaging rhetoric and ad hominem attacks arise too often in debates about psi. The social science of parapsychology, and the way that science treats anomalies in general, is a fascinating topic that starkly illuminates the very human side of how science really works. A more complete description of this topic is beyond the scope of this FAQ. See <reference link> for more information.

CRITICISM

Criticism: Apparently successful experimental results are actually due to sloppy procedures, poorly trained researchers, methodological flaws, selective reporting, and statistics problems. There is therefore not a shred of scientific evidence for psi phenomena.

Response: These issues have been addressed in detail by meta-analytic reviews of the experimental literature [<link>](#). The results unambiguously demonstrate that successful experiments cannot be explained away by these criticisms. In fact, research by specialists in scientific methods showed that the best experimental psi research today is not only conducted according to proper scientific standards, but usually adheres to more rigorous protocols than are found in contemporary research in both the social and physical sciences. [<link Harris & Rosenthal >](#). In addition, over the years there have been a number of very effective rebuttals of criticisms of individual studies [<link>](#), and within the past decade, experimental procedures have been developed that address virtually all methodological criticisms, even the possibility of fraud and collusion, by including skeptics in the experimental procedures [<link Schmidt>](#).

CRITICISM

Criticism: Psi phenomena violate basic limiting principles of science, and are therefore impossible.

Response: Twenty years ago, this criticism was a fairly common retort to claims of psi phenomena. Today, because of rapid advancements in many scientific disciplines that have launched us into the age of so-called "post-modern" science, this criticism is no longer relevant, and is slowly disappearing. The "basic limiting principles of science" seem to invariably expand as science progresses, thus assigning psi to the realm of the impossible seems imprudent at best, foolish at worst.

CRITICISM

Criticism: Parapsychology does not have a "repeatable" experiment.

Response: Under the assumption that there is no such thing as psi, we would expect that about 5% of well-conducted psi experiments would be declared "successful" (i.e., statistically significant) by pure chance. But suppose that in a series of 100 actual psi experiments we consistently observed that 20 were successful. This is extremely unlikely to occur by chance, suggesting that psi was present in some of those studies. However, it also means that in any particular experiment, there is an 80% probability of "failure." Thus, if a critic set out to repeat a psi experiment to see if the phenomenon was "real," and the experiment failed, the skeptic would not be correct to claim on the basis of that single experiment that psi is not real because it is not repeatable.

The currently accepted method of determining repeatability in experiments is called meta-analysis. This quantitative technique is heavily used in the social, behavioral and medical sciences to integrate research results of numerous independent experiments. Starting around

1985, meta-analyses have been conducted on numerous types of psi experiments. In many of these analyses <link>, results indicate that the outcomes were not due to chance, or methodological flaws, or selective reporting practices, or any other plausible "normal" explanations. What remains is psi, and in many experimental realms, it has clearly been replicated by independent investigators.

WHY IS PARAPSYCHOLOGY CONTROVERSIAL?

Parapsychology remains controversial today, even with substantial, persuasive, and scientifically palatable results, for three main reasons: First, the media, and much of the public, confuses parapsychology with sensational, unscientific beliefs and stories about "the paranormal." This widespread confusion has led many scientists to instantly dismiss the field as unworthy of serious study, and thus they are unaware of the existing evidence.

Second, even if someone wanted to study the evidence, much of the persuasive work is published in recent (i.e., the past ten years) professional journals, thus finding good information is a challenge. This FAQ was produced in an attempt to help diminish this problem.

WHAT IS THE STATE-OF-THE-EVIDENCE FOR PSI?

To be precise, when we say that "X exists," we mean that the presently available, cumulative statistical database for experiments studying X, provides strong, scientifically palatable evidence for repeatable, anomalous, X-like effects.

With the above in mind, ESP exists, precognition exists, telepathy exists, and PK exists. ESP is statistically robust, meaning it can be reliably demonstrated through repeated trials, but it tends to be weak when simple geometric symbols are used as targets. Photographic or video targets produce effects about 10 times larger, and there is some evidence that ESP on natural locations (as opposed to photos of them), and in natural contexts, may be stronger yet. Some PK effects have also been shown to exist. When individuals focus their attention on mechanical or electronic devices that fluctuate randomly, the statistics of the fluctuations change in predictable ways.

WHAT IS THE STATE-OF-THE-THEORY FOR PSI?

Opinions about mechanisms of psi are wide ranging. Because the field is multidisciplinary, there are physical theories, psychological theories, psychophysical theories, sociological theories, and combinations of these.

On one end of the spectrum, the "physicalists" tend to believe that the "psi sensing capacity" is like any other human sensory system, and as such it will most likely be explained by known principles from biophysics, chemistry, and cognitive science. For these theorists, psi is expected to be accommodated into the existing scientific structure, with perhaps some modifications or extensions. On the other end of the spectrum, the "mentalists" assert that reality would not exist if it

were not for human consciousness. For these theorists, the nature of the universe is much more effervescent, thus accommodating psi into existing scientific models will require significant modification of science as we know it. Strong theoretical debates are common in parapsychology in part because spirit, religion, the meaning of life, and other philosophical conundrums coningle with quantum mechanics, probability theory, and neurons.

QUESTIONS ABOUT POPULAR PHENOMENA

ARE GHOSTS REAL?

The prevailing view today is that the mysterious physical effects historically attributed to ghosts (disembodied spirits), such as movement of objects, strange sounds, enigmatic odors, and failure of electrical equipment, are actually poltergeist phenomena (see below). Apparitions that occur without accompanying physical effects are thought to be either normal psychological effects (i.e., hallucinations), or possibly genuine information mediated by psi.

ARE POLTERGEISTS REAL?

Poltergeists (from the German, "noisy ghosts") usually manifest as strange electrical effects and unexplained movement of objects. At one time, these phenomena were thought to be due to ghosts, but after decades of investigations by researchers, notably by William G. Roll, the evidence now suggests that poltergeists are PK effects produced by one or more individuals, usually troubled adolescents. The term "RSPK," meaning "Recurrent Spontaneous PK," was coined to describe this concept.

IF PSI IS REAL, HOW COME CASINOS MAKE SO MUCH MONEY?

The house "take" of the typical casino, i.e. the average percentage of the bet that the casino keeps, is so large that a person would have to be able to apply consistently strong psi, at will, to make any notable difference in long-term casino profits. For example, the house take for table games like craps and roulette averages about 25%. That means that on average, for every \$100 gambled at the table, the gambler takes home about \$75. Thus, in spite of the fact that the daily house take can fluctuate between say, 100% (lots of losers) and -100% (lots of winners), over the long term casino profits are quite predictable and stable. However, given that some psi effects are known to be genuine, in principle a good, consistent psychic could make money by gambling.

IS CHANNELING REAL?

Channeling is the claim that a departed spirit can speak or act through a sensitive person. In the late 1800s, this was called mediumship; similar claims of communicating with departed spirits can be found throughout history and across most cultures. Some researchers believe that cases of exceptional prodigies, like Mozart in music, or Ramanujan (spelling?) in mathematics, provide evidence of genuine channeling. However, some people who claim to channel extraterrestrials, or ancient masters from Atlantis, can easily perpetrate scams. Afterall, how can

we check the validity of the claimed channeling? Some of the material supposedly channeled by departed spirits, or other-worldly beings, is clearly nonsense. For more information, see <link Hastings>.

ARE LARGE-SCALE PK EFFECTS, LIKE LEVITATION, REAL?

Throughout history there have been many reports of spectacular events, such as individuals levitating, holy people materializing objects out of thin air, and people who are able to move, bend or break objects without touching them. Unfortunately, in most cases individuals who make such claims hope to capitalize on their "abilities." Because the potential for fraud is high, and it is relatively easy to create convincing effects that closely mimic paranormal ones (with conjuring techniques), trustworthy evidence for such large-scale effects is very poor. There are a few cases of apparently genuine movement of small objects, but in general the existence of large-scale, or macro-PK, is still open to serious question

WHAT IS THE HISTORY OF PARAPSYCHOLOGY?

NOTE TO PDL READERS: This is a horribly provincial history I've sketched from memory. Please please please add your own stories to this history so I can create a brief chronology of the main psi labs worldwide and what they are known for. I apologize in advance for leaving out places and people which are obviously critical parts of history, but I haven't thought of them just now.

Parapsychology grew out of a serious, scientific interest in Spirituality in the late 1800s in Great Britain and the United States. The (British) Society for Psychical Research, founded in 1881, and the American Society for Psychical Research, founded in 1885, were created by leading scientists of the day to study mediums who claimed they could contact the dead or produce other psychic effects. Much of the early evidence was descriptive and anecdotal, including reports of precognitive dreams, descriptions of table levitations, accounts of ghost sightings, and so on. Some members of the Societies for Psychical Research attempted to test the phenomena claimed by physical mediums using special instruments they designed. Some of the case studies and books published by members of these societies, most notably the work by Frederick Myers in the UK, and William James in the USA, are enduring classics.

In 1917, J. Edgar Coover, a psychologist at Stanford University, was one of the first investigators to apply experimental techniques to study psi abilities in the laboratory. But it was not until 1927 that a new era for psi research was established by biologist J. B. Rhine. Rhine and his colleagues developed original experimental techniques and helped popularize the terms "ESP" and "parapsychology." Rhine's lab at Duke University (Durham, North Carolina), initially part of the Psychology Department, developed a world-wide reputation for pioneering and

scientifically sound research. In 1935, Rhine created the first academically-based, independent parapsychological laboratory at Duke University. His best-known research involved ESP testing using special cards and PK tests using dice. In 1965, Rhine retired from Duke and moved his lab off-campus. Today, Rhine's legacy, the Institute for Parapsychology, is still active in psi research and is located across the street from the Duke University campus. <Reference link>

HELP: What am I missing here, other major programs from the 30's to the 70's? What about Ian Stevenson's program? What is the history of that?

Emily?

In the 1970's, a major psi research effort began at the California think-tank, SRI International, in Menlo Park, California, USA (formerly called Stanford Research Institute). The program was established ~~run~~ by Harold Puthoff, later Russell Targ joined the program, and then Edwin May. The SRI program concentrated on remote viewing research (and coined the term). May took over the program in 1985 when Puthoff left for another position. When May left SRI International in 1989, he reestablished a similar psi research program ~~within the international science-for-hire organization called SAIC (Science Applications International Corporation), located in Palo Alto, California, USA.~~ That program is still engaged in research and is best known for using sophisticated technologies, like magnetoencephalographs (MEG), to study brain functioning while individuals perform psi tasks, and theoretical models of micro-PK. *the laboratory also develops theoretical models of micro-PK and approaches remote viewing research more towards the "physicalist" perspective.*

the Cognitive Sciences Laboratory of a similar organization

At about the same time that the SRI program began, another psi research program was established by Montague Ullman and Stanley Krippner at the Maimonides Hospital in Brooklyn, New York, USA. This team, which later included Charles Honorton, is best known for their work in dream telepathy. Just as this program was winding down in 1979, Charles Honorton opened a new lab, called the Psychophysical Research Laboratories, in Princeton, New Jersey, USA. Honorton's lab, which continued operating until 1989, was best known for research on telepathy in the ganzfeld, micro-PK tests, and meta-analytic work.

much more content.

the Palo Alto based in the Cognitive Sciences Laboratory of Science Applications International Corporation (SAIC). (LINKS).

Also in 1979, another psi research program began in Princeton, New Jersey, within the School of Engineering at Princeton University. This was founded by Robert Jahn, then the Dean of the School of Engineering. The Princeton Engineering Anomalies Research (PEAR) lab is still conducting research, and is best known for its massive databases on micro-PK tests, PK tests involving other physical systems, its "precognitive remote perception" experiments, and its theoretical work attempting to link metaphors of quantum mechanics to psi functioning.

Marilyn: please write a paragraph on the Mind Science Foundation, along with dates of operation. Could you write a similar paragraph about SURF too please?

Dick: please write about the University of Utrecht and now University of Amsterdam

Deborah: please write about Edinburgh University, unless I should steal this text from the Koestler Chair EU Web site?

I'll add something about my (Dean's) program at UNLV on the last wrap.

ARE THERE ANY PSI RESEARCH EXPERIMENTS ACCESSIBLE OVER THE NET?

Yes. I will eventually link to <Dick Beirman's experiments> and <Web experiments from UNLV, coming this Fall>. Any others I should know about? ~~Re: full~~ *CSL in late fall.*

WHERE ARE THE ACTIVE PSI RESEARCH FACILITIES AND RESEARCHERS?

University of Edinburgh, Scotland <link to Koestler>
Cambridge University, UK <link to Brian>
Science Applications International. Corp, Palo Alto, CA <link to Ed>
University of Hertfordshire, UK <link to Richard W.>
University of the West of London, UK <link to Sue?>
University of Nevada, Las Vegas, NV, USA: <link to Dean>
Princeton University, Princeton, NJ, USA: <link to Bob Jahn>
University of Amsterdam, The Netherlands: <link to Dick>
Institute for Parapsychology, Durham, NC, USA <link to Richard B.>
Eotvos Lorand University of Budapest, Hungary <link to Zoli>
University of Athens, Greece <link to Fotini>

NOTE: Please, add yourself if you want to be contactable through this FAQ, or subtract your name/link if you don't want to be contactable.

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General Disclaimer: All contributions to this FAQ are personal opinions and do not reflect or imply official positions of any organizations, companies, or universities.

-- Dean

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To: Multiple recipients of list <pdl@jsasoc.com>

Subject: Comments on FAQ III

Dean,

The FAQ is quite a fine foundation, and will grow in a healthy way in response to new questions and new contributions. I've a few suggestions to make that are general and may need comment, and then some editing notes I can send directly to you.

1. The sections and subsections, maybe the paragraphs, should be numbered to allow easy search from an up-front contents list. (probably you already have this intention.)

2. For PR reasons, we should avoid words like "avoid."
The intro paragraph on the broad expected audience could begin with:

"Because our expected audience is so broad, we have touched only briefly on many technical subjects and specialty topics that underlie interesting issues and debates within the field. The approach here ..."

3. In a similar context within the "Why is parapsychology interesting?" section, I would suggest ending the second paragraph as follows:

"Thus, in deference to the broad readership expected for this document, we present in the following Technical Note some of the implications of psi, acknowledging that this section must necessarily be relatively speculative.

Technical Note: History and Philosophy

In general, ..."

4. In the section on "What are the major experiments today," there is some imbalance of content detail. Perhaps we should add a bit of summary info to those without it, e.g., in the RNG section the last sentence might be:

"A meta-analysis of the database in 1989 examined 800 experiments by more than 60 researchers over the preceding 30 years. The effect size was found to be very small, but remarkably consistent, resulting in an overall statistical deviation of approximately 15 sigma, indicating that human consciousness can affect behavior of a random physical system. Furthermore, while experimental quality had significantly increased over time, this was uncorrelated with the effect size, in contradiction to a frequent, but apparently unfounded skeptical criticism."

5. Under "Why is parapsychology controversial?" paragraph two, we might say:

"Second, even if someone wants to study the evidence, much of the persuasive work is published only in limited circulation professional journals. The

in many cases, scholars must request reprints and technical reports from their authors. This FAQ was produced partially to allieviate the problem, and provide references to various resources. See the section "Where can I get more information."

6. Section to follow "State-of-theory": (this is a short, top-of-the-head list)

WHERE CAN I GET MORE INFORMATION?

Most experimental research is published in one of the following journals:

European Journal of Parapsychology
Journal of the American Society of Psychical Research
Journal of Parapsychology
Journal of Scientific Exploration
Journal of the Society of Psychical Research
Zeitschrift fuer Psychologische Grenzgebiete

Other professional journals that have published parapsychology material include:

Foundations of Physics
Proc. IEEE
Psychological Bulletin
Statistical Science

The major research groups also produce technical reports that may be available to scholars on request.

7. under "Help, what am I missing ... programs," I would suggest after Rhine, or after SRI (I don't know the chronology very well):

"[During this decade] A major step toward automated, computer-based psi research was taken by the phusicist Helmut Schmidt, who developed equipment and protocols for experiments in micro-PK. Schmidt used radioactive decay and electronic noise as sources of true random events, and showed that the distribution of those events was susceptible to changes correlated with the intentions of human subjects. He also developed protocols for remote and off-time experiments and elaborated early theoretical models based on quantum mechanics."