

An Analysis of the Methodology
in Clairvoyance Testing

A Research Paper
Submitted to the Faculty
Of Saint Meinrad College of Liberal Arts
In Partial Fulfillment of the Requirements
For the Degree of Bachelor of Arts

Marc Hawkins
May, 1975
Saint Meinrad College
St. Meinrad, Indiana



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Saint Meinrad College

Parapsychology is a branch of science that deals with a range of mental abilities commonly called "psychic", and is best known for its concern with extrasensory perception, or ESP. Research in ESP has been going on steadily, especially over the last twenty-five years, and in spite of the many difficulties and the small but growing numbers of workers, some discoveries have been made that are, to say the least, revolutionary (Rhine, 1961).

Though much is still undiscovered, what is known can be evaluated in terms of validity as usefulness to mankind. This approach allows material to take on a broader and richer meaning. "Parapsychology is especially in need of suggestive insights today in approaching the more difficult stages it has now reached" (Rhine, p. 3).

The science of parapsychology began with the interest aroused by reports of spontaneous human experience and events that are familiarly known as 'psychic'. These puzzling phenomena have never been claimed by any of the conventional branches of science, and until comparatively recent decades they had been ignored by all but a few scientists. (Rhine and Brier, 1968, p. 99)

As stated before, parapsychology is a branch of psychology that deals with the unusual abilities of the human person that are not explainable by the accepted principles of science today. Gertrude Schmeidler (1974), in her book Extrasensory Perception, says that the present data seems to show

that it is possible to reach out to and make contact with other people, and respond to the external world, in ways not explainable by our sense receptors or even by the presently known laws of physics. "Extrasensory perception is knowledge gained without using the normal means of reception—touching, tasting, hearing, smelling, and seeing" (Smith, 1972, p. 1). Fundamental concepts about human potentialities may have to be changed or even extensions of basic physical laws made.

The field of parapsychology has two main branches relatively parallel to the divisions of sensory and motor functions in familiar psychology. The first branch has to do with extrasensory perception, or the acquisition of knowledge by other than sensory means. "The extrasensory perception of an external object or event is clairvoyance. Telepathy is perception of a mental state in the mind of another person. If ESP reaches into the future, it is said to be precognition" (Pratt, 1967, p. 3).

The second type of parapsychical process is psychokinesis, or the direct mental influence over a physical object.

In an effort to maintain order and intelligibility it is necessary not only to define the field of parapsychology but to look at its history, its foundations, and its development. When the roots of parapsychology have been established, the place of clairvoyance can be pointed to and clairvoyance can be looked at with valuable and true perspective, by basically showing what clairvoyance is, how it relates, in the whole realm of psychic experience or "psi" as it was termed by the English psychologist R. H. Thouless. Clairvoyance is most clearly related to telepathy.

Telepathy has in clairvoyance something like a sister phenomenon. And clairvoyance was another of the earliest psychic claims to be scientifically investigated. Clairvoyance per-

ception is the awareness of objects or objective events without the use of the senses, whereas telepathy is the awareness of the thoughts of another person, similarly without sensory aid. The term 'clairvoyance', although it literally means "clear seeing" in reality has nothing to do with vision. Clairvoyant impressions may be in the form of visual imagery, but they may also be of other types as well. Any direct apprehension of external objects is clairvoyance if the senses are not involved. (Rhine, 1971, p. 27)

Grounds for controversy and errors, with a historical review, can be looked at, possibly showing how best to avoid certain pitfalls.

Fairly clear is the historical origin of parapsychology. The scientific study of ESP grew out of the occasional "psychic" experiences which occur spontaneously to many people. These occurrences have been recorded since ancient times and among different cultures in much the same general pattern. As interest grew in these strange abilities that seemed to defy any explanation by existing science, societies were formed to study them (Pratt, 1967, p. 17).

The Society for Psychical Research of London was the first of these to emerge in 1882, others appearing later in different countries. One of these was the American Society for Psychical Research in New York (Murphy, 1961). These societies fostered research and educational interest which led a few universities in American and later in Europe to set up experimental work in ESP.

As these societies emerged certain questions had to be dealt with. One, what belongs in the field of parapsychology? They had little knowledge of the realm of parapsychology.

The chief characteristic of the exploratory stage of scientific inquiry is that in it the explorer is permitted to range widely, venture freely, and look into everything that might be important to his interest without being burdened with too much precautionary concern. (Rhine and Pratt, 1957, p. 20).

How does one go about investigating phenomena of this nature which challenged recognized physical laws? With these questions in mind they spent their early years exploring the field, making the foundations of parapsychology as it is today.

These questions have haunted the early growth of parapsychology. The early years were spent exploring the field loosely because no one knew at first how to deal with the phenomena. Criticisms, skeptics, and frauds held early advancements in the field to a slow rate, not to mention the fact that investigation was without real safeguards.

Spontaneous cases of ESP were looked at in an effort to see why they occurred and to what degree ESP was experienced.

Early research was done by large-scale surveys of spontaneous parapsychical experience common in everyday life. The investigators reviewed some 17,000 questionnaires of which some 1,684 of them said they felt they had at least one psychical experience. (Pratt, 1967, p. 36)

Investigators in their evaluation of this material were trying to show that ESP does occur. But as will be mentioned later in looking at a good scientific method, case material can not be conclusive evidence in parapsychology.

But regardless, the study proved to be successful and productive in many ways. One is it provided material that encouraged them to feel they were on the right track. It also gave a valuable collection of information pertaining to the wide and varying conditions under which ESP exists. (Pratt, 1967, p. 37)

The study of spontaneous cases has also helped parapsychologists.

HISTORICAL SURVEY

Research in parapsychology made tremendous advances in the 1930's. This was largely due to the work of J.B. Rhine at Duke University. His studies were the first to apply the scientific method to obtain sufficient and adequate data to be received by the scientific world.

At this point telepathy seemed to be the most common experience of a psychic nature and the first to really be studied. "It was reasoned that if thought can be transferred directly from one mind to another without the use of the senses, man must possess mental powers transcending brain mechanics" (Rhine & Pratt, p. 9).

Clairvoyant tests consisted in these early stages of playing cards, lotto blocks, and the like. Later the Duke researchers developed a special deck of cards for the testing purpose. The deck used five easily distinguished geometric designs: star, circle, cross, square, and waves. There were five cards of each symbol in a deck of twenty-five. This deck allows easy computation by statistics.

The question of chance now enters into the whole spectrum. Chance comes into play because the most frequently used ESP or clairvoyant test is one in which the subject guesses the order of ESP cards. It is quite necessary to discuss chance and how it plays an important part in looking at the reliability of clairvoyant card tests. The purpose is to show methodology used to attain the perfect test.

Since each of the five symbols in a deck occurs about five times on average in the twenty-five card deck, chance alone expects five hits in each run . . . due to chance, some fluctuation in the subjects' score is expected by chance in individual runs. Either a large variance of scores (on either side of the mean) or a very small fluctuation (that keeps close to the mean) can give evidence

of psi by means of the variance test. (Rhine, p.301)

Any big deviation from chance points to the possibilities that something other than chance is working. This paper will later look at one experiment considered to have followed this method and achieved significance.

"Data from a proper experiment either shows a significantly large or small variance, the variance itself serves as a useful test of significance" (Rhine, p.302). The establishment of any fact is a relative matter. One's acceptance of a given finding or result often depends, for example, upon personal attitude and philosophy. One must be objective and flexible. What is needed for verifying a hypothesis in parapsychology? First of all, there is the requirement of sound measurement. This has to do with the estimation of significance with respect to chance. This measurement of significance of rate of success in the test's basic statistics involves taking into account the total number of successes made in a given number of trials. It accurately estimates the number of total hits from the mean chance expectation. By this deviation (SD) the quotient becomes the critical ratio (CR), a value which may be converted by means of the standard normal probability integral table to an equivalent probability. The formula for the variance test can be found in Rogers (1966).

The field of science should properly be judged on the basis of its method of investigations. In parapsychology, however, as in any branch of psychology, it is sometimes necessary to look at specific testing techniques employed. The degree to which the results exceed the level of pure chance cannot be overlooked.

Research workers must at some point be concerned with rigorous

control and method. "The radical nature of the results have made it necessary to develop a wider range of safeguards against error" (Rhine & Pratt, p.18).

From the brief outlook of the historical aspect of clairvoyant research the role of science has two obviously general functions. "One is its role of exploration, turning up of new phenomena or ideas; the other the task of verification, or making sure whether a claimed discovery or suggested hypothesis is valid" (Rhine & Pratt, p.19).

It is very important in clairvoyant ESP tests that there be absolutely no possibility of sensory communication. To read someone's thoughts can be attributed to telepathy but does not always mean telepathy is operating. Any normal person may at times have some idea of another's thoughts by utilizing cues such as facial expressions, skin, and posture. This is why cards are used, because although exact words may not be known, simple deduction leads one to some idea of a person's emotional state. The fact that cards are used in clairvoyant tests rules out some of the sensory communication but auditory communication is still possible.

It is advisable in clairvoyance tests to insure no prior knowledge of the order of test cards either by the agent or sender. Knowledge of the order is only attained after the experiment. This seems to automatically eliminate sensory cues as a possible influence over experimental results. Nothing should be overlooked in setting up the conclusive test.

If a research project involves clairvoyance, the requirement for a conclusive test calls for two rooms right from the start. Such

separation will call for a method of communication between the two rooms. Communication should be only one-way permitting only the receiving subject to signal the agent when he is ready for the next trial in a non-verbal way. Otherwise sensory cues would be highly suspect, whether deliberate or unconscious. The use of concealed devices must be controlled.

Care in recording is a must in the "good" experiment. All the data must be recorded in a way as to eliminate any possibility of error that would falsify results. For this purpose, the ideally careful experiment should have this responsibility shared by two experimenters.

The last requirement for sound verification might be in consideration of deliberate error or deception. G.R. Price (1955) in his article "Science and the Supernatural Science" suggested that deliberate fraud on the part of the investigators is the explanation for experiments that cannot be attributed to error or incompetence. His article initiated a controversy that was carried on at length in the January 6, 1956 issue of Science, as well as in the Journal of Parapsychology (December, 1955).

It can be said that high standards of control should reasonably be attained, keeping in mind that that every limiting condition on an experiment is a burden, and excessive use of precaution is a waste. The conclusions, if needs have been calculated, depend upon the adequacy of the weakest feature, not upon an elaborate display of many precautions. (Rhine & Pratt, p.32).

EXAMPLE OF PROCEDURE

In experiments carried out to demonstrate clairvoyance, the percipient tries to guess the nature of a symbol about which the agent is not aware. If the percipient could invariably guess correctly, there is little difficulty in demonstrating clairvoyance. But this is easier said than done. "Clairvoyance differs from telepathy in that only one person is involved; the percipient can become aware of an event or the characteristics of an object without the involvement of a second person acting as transmitter" (Hansel, 1966, p. 11).

The main objection to ESP tests seems to be in the failure to achieve "respectability" - doing the same experiment over and over again under identical conditions.

To assume that ESP is impossible is not unreasonable, since there is a great weight of knowledge supporting this point of view, and the main evidence contradicting it is that of the experiment being analyzed. If analysis shows that this assumption is untenable, then the possibility of ESP has to be expected. (Hansel, p. 19)

Researchers have tried to achieve valid experiments. By examining past studies, the validity for future experiments can be improved. Thus, we examine the Pearce-Pratt experiment. The Pearce-Pratt experiment was chosen by looking at what by many parapsychologists is considered to be a conclusive experiment.

Proof for the existence of ESP must obviously depend on conclusive experiments, but only a small number of all such experiments are considered to fall into this category, and parapsychologists are not agreed among themselves which of the experiments should be regarded as conclusive. This was pointed out by J. Fraser Nicol, Research Officer of the American Society for Psychical Research, at an international symposium on extra-sensory perception organized by the Ciba

Foundation held in 1955 at Cambridge University in England.
(Hansel, p. 23)

In an early survey in 1940 several members of the Parapsychology Laboratory at Duke University, in their isolation of conclusive experiments came up with six they believe to exist up until that time, the Pearce-Pratt experiment was mentioned as one, falling in the conclusive category. Later surveys done by Rhine and Pratt (1955), as well as Soal and Bateman (1940) mention the Pearce-Pratt series.

Because the Pearce-Pratt series was mentioned in several surveys does not prove it by that very fact to be conclusive. It only points to the possibility of a greater chance of it being valid, with the help of earlier mention of the requirements of a conclusive experiment, sound measurement, experimental safeguards, care in recording and precautions against deception. It is intended to look at and analyze one experiment (the Pearce-Pratt series) which in many investigations was called conclusive.

Hubert E. Pearce was a student who had been acting as a ESP subject in experiments for more than a year, when in 1933 he participated in the Pearce-Pratt experiment. J. B. Rhine has stated that the aim of the experiment was to set up experimental conditions strict enough to exclude all factors, other than ESP, that could produce above-chance scores. The experiment has been described in several articles and books, but the most complete account was provided in an article in the Journal of Parapsychology (1954). (Hansel, p. 71)

The Pearce-Pratt series was a clairvoyance test in which Pearce, the receiver, guessed the order of cards of a pack controlled by Pratt, the agent, while he was situated in a separate building.

"Aside from planning the experiment, J.B. Rhine participated only in the independent checking of results, and in one series participated as the witness to the operation of the test.

THE PROCEDURE

The starting point for the two men was in Pratt's room on the Duke University campus. Both synchronized their watches and set a time at which the test was to begin. Pearce then proceeded across the quadrangle to the library where he sat in a cubicle about a distance of 100 yards away from Pratt who by looking out the window could see Pearce cross the quadrangle and enter the library.

THE TARGETS

After Pratt sat down at a table, he took a pack of ESP cards, shuffled them repeatedly and then cut the deck, keeping the cards all the time with their faces away from him. At a moment previously agreed between the two men, Pratt would take the top card from the pack, lay it face downward on the table. Exactly one minute later he would do the same procedure until he had run through all the targets. After a run of twenty five cards, five minutes time was allowed to elapse before beginning with a second pack. Pratt at the end of the sitting turned the cards up to record their order. He then made a duplicate of his record, sealed it in an envelope, and later delivered it to Rhine.

THE PERCIPIENT

In the cubicle in the library, Pearce wrote down his guesses at intervals of one minute, until he had made and recorded fifty guesses. He made a duplicate copy of his record sheet and sealed it in an envelope that was later delivered to Rhine. The two sealed records usually were delivered personally to Rhine before Pratt and Pearce compared their lists and scored the number of successes.

THE EXPERIMENTAL CONDITIONS

The above procedure was followed at each of thirty-seven sittings by Pratt and Pearce. The sittings were divided into four subseries. At least two hundred yards were between the two. Three of the sittings were under the same conditions as the first subseries in which Rhine was with Pratt in the same room.

THE RESULTS

Among the four experiments, the total number of trials was 1,850. With the hypothesis of chance the most probable number of hits is 370. The actual results exceeded chance by 188.

It would appear that something other than chance was operating in each of the four subseries. The odds against such total results arising by chance exceed 10^{22} to 1, pointing to statistical significance in each of the subseries.

Although the Pearce-Pratt series was considered by many as conclusive evidence, many criticisms about procedure on the basis of what makes a good experiment can and will be pointed out.

Since Pearce was not supervised during the experiment, collusion or cheating could have accounted for the high scores. This is one of the safeguards that should have been employed. This safeguard was used only in one subseries, the one in which Rhine was present.

It was good to use two rooms in these experiments because it reduced the threat of sensory cues. But questions about the rooms were asked in Hansel's (1974) article on the Pearce-Pratt experiment. "ESP: A Scientific Evaluation" states that Hansel saw the two rooms and mentions that from the corridor one could see into the room where Pratt had carried out the

experiment. Seeing this aroused interest in just exactly how Pratt had proceeded during the experiments. Hansel writes

The day after we had seen the rooms, I asked Pratt to demonstrate to me the exact procedure he used during the experiment. I was particularly interested to see how he turned up the cards to record them; whether he shuffled the pack after use and how he left them on the table.

From his demonstration it was clear that anyone looking into the room would have obtained a clear view of the faces of the cards when they were being listed. Each was turned on its back while an entry was made on the record sheet. Pratt did not shuffle the packs after noting down their order, and after recording the first pack he moved it to the top-left corner of the table. He told me he did not lock his door during the sitting or after it was over and that he made his record on notebook paper. I also learned that the room across the corridor from the one Pratt had been in was used by students at the time of the experiment. (p.78)

Much more information about the conditions in which the Pearce-Pratt experiments took place, is known today. The experiment was far from foolproof and a sound experiment. All kinds of possibilities for cheating are quite evident to have existed. A science should be able to withstand criticism, if not scrutinizing itself the hardest. The methodology for a good experiment was not followed in many of the most important ways; the possibility for sensory cues existed, care in recording was not made and the subject unobserved. Far too many safeguards were unemployed for any conclusive evidence to be established.

The Pearce-Pratt experiment cannot be a true indicator of the existence of ESP for the following reasons, according to Hansel: 1.) The reports of the experiment contain conflicting statements so that it is difficult to ascertain the precise facts. 2.) Essential features of the experimental situation were not reported and readers have been led to assume that the experimental conditions were foolproof and that every possibility of trickery had been considered and guarded against. 3.) A

number of aspects of the experimental design were such as to enable the results of the experiment to be brought about by trick. These features involved the fact the subject was left unobserved; the rooms used by Pratt were not screened so as to make it impossible for anyone to see into them; Pratt recorded the targets at the end of each sitting in such a manner as to expose their faces to anyone looking in the room.

It is necessary to note that parapsychology has advanced far beyond the experiments of the 1930's. Experimental validity has been increased by new and various techniques. The many criticisms received have helped parapsychologists to reduce undesirable errors, so that eventually even the skeptic will admit to the results of good experimentation.

CONCLUSION

Parapsychology today, as a direct result of early experimentation and review, has been able to be confident in the reliability of scientific methods of certainty. Current research differs from that done in the 1880's and 1930's, when the object was to prove or disprove the existence of psychic phenomena. Today, many branches of psi are considered proven as a result of extensive laboratory experiments with telepathy, clairvoyance, precognition, and psychokinesis. Emphasis now is on learning the nature of psi and the psychological and physical factors that make it happen.

The scientific community has only grudgingly recognized the authenticity of parapsychological research. According to the Warner and Clark study of 1938, 91-97% of scientists polled felt that ESP was unproven. In a follow-up study in 1952, the percentage unconvinced had decreased somewhat to 83% (Schmeidler, p.59). American psychology and psychologists find it particularly hard to accept clairvoyant phenomena, as it is currently incompatible with the mechanism of Watsonian behaviorism.

Several criticisms of psi research have been put forth by the skeptics, and many have been refuted. The statistical criticism leveled against Rhine's study of the 1930's was later repudiated by the American Institute of Mathematical Statistics. Other deficiencies in experimental controls alluded to earlier (sensory cues, recording errors, etc.) have been largely corrected by modern researchers (Schmeidler, p.61).

Critics of parapsychology submit that there is something wrong with the kind of experimental work which can't be logically explained as consistent with natural law. In this they ignore the possibility that the theoretical assumptions of current scientific systems may be in error, even though this possibility has periodically been realized by the work of major scientific figures (witness Galilei, Pasteur, and Einstein) (Schmeidler, p.61). Dishonesty and collusion have also been a recurrent complaint parapsychological conclusions, but this objection can be applied to almost any experiment involving human beings.

Perhaps the most weighty critique of psi research is the failure of ESP experimenters to produce an experiment that is truly repeatable. If parapsychology is to be an experimental science, this seems to be an essential requirement. Accepting ESP evidence that does not meet the repeatability criterion is an instance of accepting proof strictly on statistical grounds. But statistics don't prove anything by themselves; they only state the mathematical odds that an extra-chance factor is present. Going beyond this statement to a cogent explanation of psychical data is the challenging business of modern parapsychology (Schmeidler, p.64).

In addition to telepathy, clairvoyance, precognition, and psychokinesis, parapsychologists are also concerned with ESP between mother and child, ESP under hypnosis, dream telepathy, reincarnation, animal ESP, psychometry, mediums, and auras, to name a few. Researchers frequently observe the phenomena in spontaneous cases and attempt to reproduce that same phenomena in the laboratory.

Improvements have been made in the way in which the field is

studied. There have been many attempts and suggestions for better exploring the field. According to Stanford (1973) in his address to the Parapsychological Association, experimenters should try personally to experience as many psi phenomena as possible. He suggests they might well profit by being the subjects of experimentation. "Imagine the plight of the sex researcher who is a virgin or the LSD researcher who has never had a trip" (Roll, W.G., Morris, R.L., Morris, J.D., 1974, p. 158). There is no real substitute for direct experience.

Modern technology also provides an important input into psi research. Ullman, Krippner, and Feldstein (1966) used electroencephalogram (EEG) patterns to monitor experimentally-induced telepathic dreams (Schmeidler, p.137). The potential use of space vehicles to attain unprecedented distancing between subject and experimenter was discussed at a parapsychological symposium in 1972 (Roll, W.G., et. al., p. 54). At the same symposium Beloff (1972) suggested that there is a degree of similarity between psi phenomena and the phenomena of depth psychology in that both employ symbolism and imagery to a great extent. He consequently suggests that free-response tests rather than forced-choice (card-guessing) might be appropriate. Beloff (1972) states that the obvious pitfall of subjectivism can be avoided by use of modern statistical matching techniques, which permit an exact estimate of significance in the evaluation of free-response data.

If and when the nature of psychic experience is understood and controllable, finding practical application will be of great help to mankind. Imagine the possibilities for revolutionizing the fields of medicine and psychology, for example. Given that psychic phenomena

operates on the unconscious level, the application of this phenomena to the treatment of emotional or mental disorders might be possible. Psychopathic hallucinations may also be interpreted as psychic manifestations (Schmeidler, p.70).

The current unintelligibility of psychic evidence is both intellectually attractive and frightening. If the phenomena of parapsychology does exist and if it cannot be known with scientific certitude, it points to the possibility that man is a more complex organism than the mechanistic world-view would allow. Thus, further studies in the field of parapsychology may contribute to the eventual alteration of man's view of the universe.

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