

# ESP and ASC

by Robert J. Trotter

"My lad, you are invincible," the Delphic oracle told young Alexander the Great. And Alexander, being a great believer in prophets, went on to fulfill the seeing lady's prediction. Even so, there were probably some skeptics who doubted the words of the famous oracle and bet on the Persians. Then, as today, the skeptics had to be shown before they would believe. And a basic paradigm of Western science has always been that "nothing is in the intellect which is not first in the senses." This strict empirical attitude is at the heart of an ongoing controversy.

There have always been and continue to be reports of strange happenings that cannot be explained away in physical or sensory terms. Among these illusive events are a group of interactions loosely termed parapsychological or psi phenomena. Extrasensory perception (ESP) is a psi phenomenon. It is an interaction between an organism and the external environment (including other organisms) that is not mediated by recognized sensory functions. Examples of ESP include telepathy (perception of another person's thoughts), clairvoyance (perceptions of objects or events not present to the senses) and precognition (the oracle's trick of seeing into the future).

The first serious attempts to study psi events under strictly scientific conditions began in 1882 in London at the Society for Psychical Research. Three years later, William James began investigating similar events in New York at the American Society of Psychical Research. These early studies attempted to authenticate individual cases of reported psi events. But this is not the way to go about studying psychic phenomena, in the view of Charles Honorton: "Spontaneous cases, however thor-

oughly authenticated, cannot provide adequate assessment of such potentially contaminating factors as chance coincidence, unconscious interference, sensory leakage, retroactive falsification or deliberate fraud." Honorton is a senior researcher in the division of parapsychology and psychophysics in the department of psychiatry at the Maimonides Medical Center in Brooklyn, N.Y. This research center, formerly known as the dream laboratory, has been investigating various forms of ESP since the early 1960's. Honorton is writing a book he describes as a detailed critical summary of all ESP research since 1940.

To avoid charges of fraud and to keep their work on solid scientific footing, serious parapsychologists introduced card-guessing and probability theory into their studies. J. B. Rhine and his associates at Duke University in Durham, N.C., popularized card-guessing as an experimental approach in 1934. Rhine devised a standard set of procedures around a simplified deck of cards. The cards, called Zenner cards, had five markings—either a circle, square, cross, star or wave. A sender in one room would pick cards from the deck at random while a receiver in another room attempted to guess the geometric shape on the card. The probability of success is one in five. But Rhine soon found that some subjects do better than others, and here is where the laws of probability come in.

The odds are one in six that a subject will guess 220 correct out of 1,000 cards. The odds go up to one in 2,000 if, after 5,000 guesses, the same subject has continued to guess correctly at a rate of ten percent above chance. The odds go up to one in 2,000,000 after 10,000 guesses if the same subject is still getting 11 correct (instead

of 10) out of every 50. Some of Rhine's subjects began to get such astronomical results—results that are more than significant in any of the hard sciences.

"As a stimulant to experimental research on the probability of psi communication, the Rhine monograph had an influence which was totally unprecedented in the history of psychical research," says Honorton of Rhine's 1934 paper. Many researchers, using similar methodology, began to report significant results in favor of ESP. This success, however, stimulated a flurry of criticism in the psychological literature.

Between 1934 and 1940, 60 critical papers appeared. They attacked card-guessing on every methodological level, and did turn up some cases of recording error and even fraud. Some even suggested that there might be a fundamental defect in probability theory.

The scientifically oriented investigators of psi reacted to the criticism by tightening up their procedures, and by 1940 the active methodological controversy was over.

"It is evident," says Honorton, "that while published criticism of the ESP work generally ceased by 1940, the decline of active controversy did not lead to widespread acceptance of the ESP hypothesis in the scientific community. Many psychologists appear to have adopted and stuck to the attitude of one researcher who defined ESP as "Error Some Place."

While such hard-line skepticism and controversy still represent difficult barriers for the parapsychologists, there seems to have been—especially within the past five years—a change of attitude on the part of some scientists. Some are beginning to view parapsychological research (no matter what its implications) as at least a valid endeavor.

or. In 1969, for instance, the rather staid American Association for the Advancement of Science granted the Parapsychology Association an affiliate membership. At the meeting of the American Psychological Association this year, parapsychologists presented a number of papers and have applied for division membership within that organization. And the National Institute of Mental Health has even awarded grants for the study of psi phenomena. A similar change of attitude can be seen in England. Last year the *NEW SCIENTIST* polled its readership (mostly scientists and technologists) and found that only three percent of 1,500 respondents considered ESP to be an impossibility. But almost 70 percent said they felt psi phenomena were not being studied properly. They suggested that physicists, rather than psychologists, be involved (SN: 2/10/73, p. 88).

Honorton agrees. Speaking at the APA meeting, he said, "I think there will continue to be little progress in this area until there is more interdisciplinary involvement; a convergence of physical biological and behavioral science on what appears to be a psychophysical problem." We will have to, he says, "adopt the strategies of science rather than the mentality of magicians."

Montague Ullman and Stanley Krippner (also at the Maimonides Center) have been attempting to employ such strategies for the past 13 years. They have been attempting to determine how ESP works, not that it works. A major portion of their research has been done on dreams.

Throughout history, dreams have been regarded as a prime source of ESP experiences. Four international surveys, including one taken by Rhine,

have shown that up to 65 percent of all spontaneous ESP experiences reported have come through dreams. Ullman and Krippner decided to attempt to induce telepathic dreams under controlled conditions. "With the development of psychophysiological techniques for the monitoring of sleep," explains Krippner, "it became possible to move from a clinical level of observation to an experimental level."

In the dream studies, the person being studied sleeps at the dream lab. Electroencephalograph electrodes are fastened to the subject's scalp and movement sensors to the subject's eyelids. In this manner, brain wave changes that accompany dreaming are monitored, and rapid eye movement (REM) is monitored as another indication of dreaming. Experimenters rouse the subject every time there has been a dream. The subject describes the dream in detail and then goes back to sleep until another dream is registered. This procedure collects much more dream detail than if the experimenters waited until morning. In the morning, however, the subject is reinterviewed and additional material and subconscious associations are collected.

While the subject sleeps in a soundproof room behind four closed doors, an agent (at least 100 feet away) attempts to transmit a message or image to the dreamer via ESP. A colorful art print is most often the subject of the message. Prints with a highly emotional content (sexual, religious, etc.), the researchers have found, are most easily transmitted. The print for a particular night is chosen at random from a large collection after the subject is asleep. Only the agent or sender knows what the picture is.

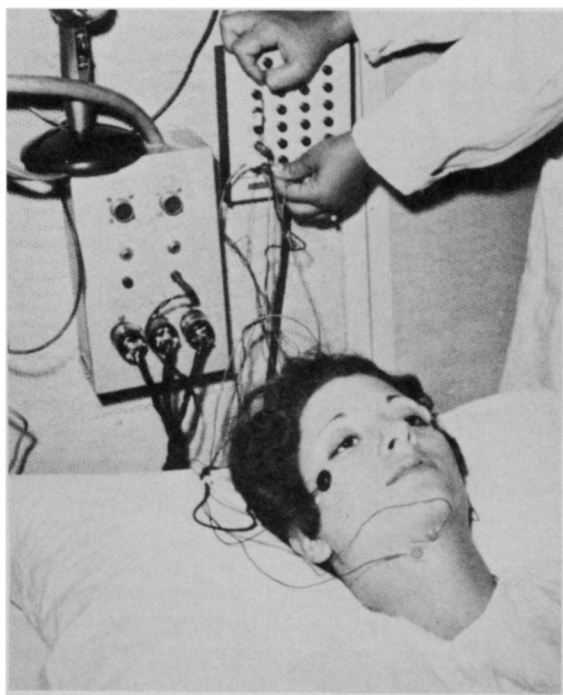
After the details of the dreams have been transcribed, they are sent, along with the copies of all the possible target pictures, to a group of independent judges. The judges compare the dream details and rank the pictures according to the amount of correspondence each seems to have to the dream. In more instances than would be predicted by chance, there was a significant relationship found between what was sent and what was received.

More than 100 subjects have taken part in these dream experiments (usually for eight or more nights). And 13 of the more elaborate studies (four of which were not statistically significant) have been published in parapsychological or psychological journals. Many of the other dream studies have been described by Ullman and Krippner in *Dream Telepathy* (Macmillan Publishing Co., Sept. 1973).

In one experiment, the target picture was a Japanese print, "Downpour at Shono." It showed a man walking in a driving rain. During the night the sending agent tried to get actively into the picture by taking a lot of showers and playing with a toy Japanese umbrella. Describing the night's dreams, the subject reported, "something about an Oriental man . . . a fountain, water spray that would shoot up. . . . Walking with someone on the street. . . . Raining."

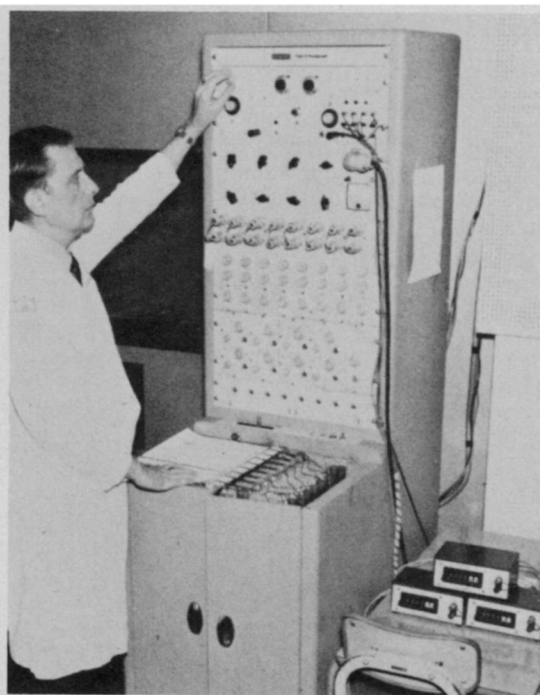
According to Krippner and Ullman results such as this have gone beyond the point of proving ESP. They have shown that altered states of consciousness (ASC), such as dreaming, facilitate such events. Accordingly, they have done experiments on various other altered states of consciousness.

The "witch's cradle," or suspended



*Sweet dreams: Electrodes in place, a dream subject prepares for a novel night's sleep in a soundproof room while Krippner monitors electroencephalograph readings.*

Harold Friedman  
from *Dream Telepathy*



sensory isolation cradle, is one prop they use to produce an ASC. The cradle is a metal platform, suspended from above, which is free to swing several inches off the ground. As the subject stands on the platform, even subtle body movements make the cradle rock erratically, but gently, in a random fashion. After several minutes on the cradle, in a dark and soundproof room, most subjects lose all sense of physical orientation and begin to have visual, and sometimes auditory hallucinations. The researchers have found that many of these hallucinations are veridical—they correspond to real-life experiments outside the suspension room. In a study reported by Honorton, subjects in this ASC obtained significant results in guessing which pictures were telepathically sent. Chance expectancy was 50 percent. The subjects who reported being in an ASC were correct 76 percent of the time.

A milder ASC can be produced by providing an isolated subject with a homogeneous visual field (ganzfeld) and continuous auditory stimulation. The subject in a ganzfeld experiment sits relaxed in an easy chair. Ping-Pong ball halves are taped over the subject's open eyes and a red light is turned on. This produces a blank red field of vision and keeps outside influences from interfering with any internally produced visual imagery. The auditory stimulation comes through earphones and is usually a tape of something calming, such as the sound of the ocean. This keeps auditory sensory inputs at a constant level. The subject is left alone and instructed to think out loud and report any feelings or visual images. The reports are taped and recorded, usually for 30 minutes. Meanwhile, a sender outside the room views stereoscopic pictures (because it is believed that the more real the message is for the sender, the more real it will be for the receiver) and attempts to transmit them to the subject. In this type of experiment, Honorton reports, "the target programs were correctly identified in 43 percent of the cases, significantly above the expected chance level of 25 percent."

Where will all of this rather strange and eerie research lead? No one is now sure. It may be the beginning of the development of some exciting possibilities for the human race. Or it may be, as Freud once suggested, that ESP is a fading phenomenon, something that belonged to our ancestors—not our descendants. "Telepathy," he said, "could be the original archaic means by which individuals understood each other and which was pushed into the background in the course of phylogenetic development by a better method of communication, i.e., that of signs perceived by the sensory organs." □

## Excursion into ESP?

Sitting alone with Ping-Pong ball halves over my eyes, a red light shining in my face and earphones piping the sounds of the sea into my head, I must have looked as foolish as I felt. But I had asked for it. This was the ganzfeld setup in the parapsychology lab at Maimonides. My task was to think out loud for 30 minutes while someone on the outside listened but did not answer.

After about a five minute delay, while I tried to relax and think of something to say, I decided to tell a few sea stories. These led to other associations and, eventually, a rather disconnected stream-of-consciousness monologue that went something like this: "Now I see something—a white circle—a lot of boxes and strange lines and shapes—black, white, deep red. The circles are turning into things. I see faces, clocks. I have a strange floating sensation. I am tilted to the left. My sense of balance is gone, I feel disoriented. . . . Now I see something else—green. Everything else has been red, black or white. A bright green triangle—a Christmas tree. It's squat and on its side. It's only in my left eye. . . ." This kind of talk went on until someone said, "Time's up. You've been talking more than a half hour."

The aim of the experiment is to induce a slightly altered state of consciousness and then attempt to use ESP to transmit an image. While I was in the room, an experimental package was randomly selected. The package contained four View Master slides and instructions for a sender to look at and attempt to send the contents of one slide to me during a specified five-minute period.

When I came out of the room, my comments were read back and I was told to look at all four slides. (The sender had seen only one of them.) I saw 3-D pictures of Yellowstone Park, Superman, a collection of geological specimens and Ford's theater. There seemed to be only a few pictures that corresponded to my images: a boat on a lake could have been related to one of my sea stories, the cartoon drawings of Superman were similar to the strange circle-like faces I had seen. But nothing really struck me until I looked at the slide of the rock collection. One particular rock was bright green and triangular, exactly like what I had called a Christmas tree. The vivid color and shape were so striking that, without hesitation, I ranked the rocks first as the most likely target.

The sender or agent was then called back into the room. He was the only person who knew what had been sent. That's right, it was the rock slide. The time of sending corresponded with the time I saw the image of the Christmas tree.

Did I really receive a telepathic message? I think I did, but I wouldn't try to talk anyone else into believing me. A single incident like this is only enough to convince the person involved. The parapsychologists know that thousands of reliable, controlled experiments are necessary before such findings become significant. And serious scientists are trying to do just this, not only at Maimonides, but at more than 30 universities and numerous research centers across the country.

My thanks to Pat Barker, Sharon Harper and David Torres—the young man who sent me a Christmas tree.

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With visions of ESP still fresh in my head, I saw something even harder to believe. At the invitation of the Isis Center in Silver Spring, Md., I interviewed Uri Geller—the Israeli psychic whose strange powers are being investigated by physicists at the Stanford Research Institute.

Geller is best known for his ability to bend or break metal objects without applying any visible physical force. During the interview, I held a heavy key between my thumb and forefinger. The key began to bend—too slightly to be perceptible—after Geller rubbed it lightly with one finger. The key was then placed on the desk and it continued to bend slowly for several minutes until it reached about a 20-degree angle. There was no obvious way the key I supplied could have been switched. Geller had no chance (by slight of hand or other trickery) to bend the key by force. And he didn't have a laser up his sleeve, as some have suggested.

Geller claims to have other powers that I didn't witness. He says, for instance, that he can sometimes dematerialize and materialize objects. He did, however, reproduce exactly a drawing that I did while his back was turned and his eyes were covered. It took 30 seconds.

When I relate this tale, most people think that I have been duped. But seeing is believing. Even the investigators at SRI have found no evidence of fraud and, though they draw no conclusions, they feel that further investigation is warranted.

—Robert J. Trotter