

STUDY OF PARANORMAL AWARENESS - AS BRIDGE IN BETWEEN SCIENCE AND SPIRITUALITY

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Abstract : Paranormal is a general term (coined c. 1915–1920) that designates experiences that lie outside "the range of normal experience or scientific explanation" or that indicates phenomena understood to be outside of science's current ability to explain or measure. Paranormal phenomena are distinct from certain hypothetical entities, such as dark matter and dark energy, only insofar as paranormal phenomena are inconsistent with the world as already understood through empirical observation coupled with scientific methodology. In most definitions of the word paranormal, it is described as anything that is beyond or contrary to what is deemed scientifically possible. The definition implies that the scientific explanation of the world around us is the 'normal' part of the word and 'para' makes up the above, beyond, beside, contrary, or against part of the meaning. On the classification of paranormal subjects, Terence Hines in his book Pseudoscience and the Paranormal (2003) wrote:

The paranormal can best be thought of as a subset of pseudoscience. What sets the paranormal apart from other pseudo sciences is a reliance on explanations for alleged phenomena that are well outside the bounds of established science.

Thus, paranormal phenomena include extrasensory perception (ESP), telekinesis, ghosts, poltergeists, life after death, reincarnation, faith healing, human auras, and so forth. The explanations for these allied phenomena are phrased in vague terms of "psychic forces," "human energy fields," and so on. This is in contrast to many pseudoscientific explanations for other non-paranormal phenomena, which, although very bad science, are still couched in acceptable scientific terms. An anecdotal approach to the paranormal involves the collection of stories told about the paranormal. Charles Fort (1874–1932) is the best known collector of paranormal anecdotes. Fort is said to have compiled more than 40,000 notes on unexplained paranormal experiences.

Experimental investigation of the paranormal has been conducted by parapsychologists. Although parapsychology has its roots in earlier research, it began using the experimental approach in the 1930s under the direction of J. B. Rhine (1895–1980) . J.B. Rhine of Duke University is also acknowledged as the father of modern parapsychology. Rhine popularized the now famous methodology of using card-guessing and dice-rolling experiments in a laboratory in the hopes of finding a statistical validation of extra-sensory perception. There are other research methods like Participant-observer Approach, Parapsychology, and Skeptical scientific investigation which I will discuss in my paper. I will also discuss Anomalistic and Neuroscience research on paranormal experiences.

Index Terms- Paranormal, Extra Sensory Perceptions

1. INTRODUCTION TO PARANORMAL AWARENESS

1.1 Paranormal is a common term that was coined somewhere in between 1915 to 1920. It was designated for all the experiences that cannot be included in the range of normal experiences of people easily explained by science. It means that paranormal are the experiences of people that are unexplained by science. Paranormal is the phenomenon that are unable to understand by science's

present ability to define it, as paranormal is not experienced by physical senses. “*Paranormal phenomena are different from dark matter and dark energy and only insofar as paranormal phenomena are inconsistent with the world as already understood through empirical observation coupled with scientific methodology.*”

The definition ‘paranormal’ implies that, what we experience in the world around us has some scientific explanation and is considered as normal part of the world. On the other hand the ‘para’ implies to the experiences above or beyond our perspective world. Most of the researchers have agreed that paranormal phenomenon is so far not explained by the present science. “On the classification of paranormal subjects, Terence Hines in his book *Pseudoscience and the Paranormal* (2003) wrote:

The paranormal can best be thought of as a subset of pseudoscience. What sets the paranormal apart from other pseudo sciences is a reliance on explanations for alleged phenomena that are well outside the bounds of established science. ”

Now let me explain what these experiences that are considered as paranormal are. We all have heard of or experiences like having thought of someone and the same person visit us, or getting right news of distant friend, or making a right guess for any options. People may consider them as coincidences but we get news of such experiences every day from all parts of the world. And coincidences cannot happen again and again. These are also called as psychic abilities or powers. Some people have such psychic powers more than others. These powers are called as extra sensory perceptions as they do not require sensory perceptions of normal experiences. Similarly we all have heard and seen such cases where some people with psychic powers can move objects or produce kinetic energy in objects without actually touching them. It is termed as “telekinesis”. The cases about ghosts, after death experiences of people when they are back to life, miracles people get by faith healing, we hear about reincarnation and rebirth, human auras etc. All these phenomenon or experiences are the psychic forces or psychic abilities or human energy fields present in people in different amount of degrees. This is in contrast to many pseudoscientific explanations for other non-paranormal phenomena, which, although considered poor science, are still included in acceptable scientific terms. An anecdotal approach to the paranormal phenomenon involves the collection of stories told by people about their paranormal experiences. Charles Fort is considered best in studies of paranormal phenomenon as he had best collection of paranormal anecdotes. In his research, he has compiled around 40,000 notes on unique paranormal experiences.

Parapsychologists have conducted many experimental investigations to understand these psychic powers. Although Parapsychology has its roots in many earlier research, the experimental research in parapsychology was begun by Jacob.B.Rhine in 1930s. J.B.Rhine (1895-1980) from Duke University is also acknowledged as the ‘*father of modern parapsychology*’. Rhine had mostly used two methodologies i.e. card-guessing experiment and dice-rolling experiments in a laboratory in order to get proper statistics for validation of extra sensory perceptions in individual subjects. Other researchers have used participant-observer approach, parapsychological methods and skeptical scientific researches. There have been anomalistic and neuroscience research also on paranormal experiences. Religious and Spiritual people have always believed in paranormal almost in all faith all over the world. Now because of the unexplained phenomenon of such experiences the scientists are forced to study, conduct researches and find the results and reason behind the paranormal.

1.2 TELEPATHY AND HALLUCINATION

There are number of psi phenomenon like Telepathy, Precognition, Psychokinesis, Near death experiences, reincarnation, ghosts, cryptids, extraterrestrial life, extra sensory perceptions, unidentified flying objects etc. that have no explanations so far by scientific research. Here I have tried to explain some of these paranormal phenomenon.

TELEPATHY

The communications of any thoughts or impressions from one mind to another without the use of known channel of senses like ears, nose, eyes, skin and tongue is known as telepathy. Telepathy phenomenon has been studied by meta-analysis of Ganzfield experiment and Card-guessing task by earlier researchers. The motive of such studies was to examine the neural basis of telepathy by conducting experiments on people with this special ability. Since last 70 years systematic research has been carried out with the help of different paradigms and experiments that have supported the reality of telepathy powers. This mysterious phenomenon has implications in the cognitive sciences along with the biological and medical sciences. It has been assumed that conscious intention has the capability to create impressions on living systems across a distance. Prayers, other healing energy, meditation and many alike methods have been a part of medicine since long time. Thus if the powers of telepathy is understood it might help potentially in understanding the distant healing phenomenon. If we examine people with ESP powers of paranormal awareness we can understand telepathy. Earlier research of examining people with such special powers has given enough evidences and significant results to paranormal activities. Scientists have conducted functional MRI study on sending thoughts at a distance and have studied the brain activation pattern in a recipient person of thoughts from sender at a distance. The research showed significant activity in the anterior and middle cingulate areas, in precuneus and frontal lobe of the brain of the recipient person during telepathy act. Earlier experiments on telepathy ability have proved that paranormal phenomenon is associated with the right cerebral

hemisphere area present in brain. "It has been concluded in many such experimental reports that correlated neural signals may be detected by fMRI in the brains of subjects who are physically and sensorily isolated from each other." ¹

DREAM TELEPATHY

Parapsychological studies of dream telepathy were carried out earlier by Stanley Krippner and Montague Ullman at the Maimonides Medical Center in Brooklyn in New York. Their experiments concluded evidences for dream telepathy. However, the results have not been independently replicated.

GANZFELD EXPERIMENT

In Ganzfeld experiment to verify telepathy, one individual is designated as the receiver of the messages. He is placed in a controlled environment deprived of any sensory input. Another person is designated as sender and placed in a different location. The receiver is then required to receive information send to him by sender via telepathy. The nature of the information may vary between different experiments.

In ganzfeld experiment, a receiver person is placed in a room on a comfortable chair. Halved ping pong balls are then kept over his eyes with red light light shone on the balls. The receiver also has to wear a set of headphones to hear white or pink static noise. After staying in this state of mild deprivation condition for about half an hour, the receiver is subjected to receive information. A sender person observes randomly chosen pictures or target and tries to send this information to the receiver via telepathy. It was observed that receiver speaks out loud to describe the information he had received. The second experimenter who is with the receiver is unaware about the target picture. He record the receiver's message on tape or as notes and later consider it for the judgement and result.

While concluding the experiment, the receiver is taken out of ganzfeld state and shown a set of possible targets. The most similar image is selected that is witnessed. There are three decoys along with the target. After many trials 25% expected ratio was obtained by chance. Between 1974 and 1982, around 42 ganzfeld experiments were performed. In 1982, Charles Honorton presented a paper on ganzfeld experiments, at the annual convention of the parapsychological association. He concluded in his paper that ganzfeld experiments represent sufficient evidence to explain the existence of psi. Many psychologist like Ray Hyman still were not in favor of psi results by ganzfeld experiments.

HALLUCINATIONS

Hallucination is a perception received with no stimulus from real physical world. It can be vivid, substantial and located in different space. It is different from dream and it is experienced in wakeful state and illusions. It involves distorted, misinterpretations, imaginations and does not mimic real perceptions. Hallucinations differs from "delusional perceptions", in which a rightly sensed and explained stimulus i.e., a real perception is given some more significance. The term was first introduced by physician Sir Thomas Browne in 1646. In Latin, alucinari means to wander in the mind, hence the word hallucination was derived. These perceptions can occur in many sensory modalities like visual auditory, thermoceptive, olfactory, tactile, chronoceptive, etc. A simple form of hallucination is disturbance. For example seeing movements in surrounding, hearing noises or voices. The patients of paranoid schizophrenia suffer from auditory hallucinations. Frequently, auditory hallucinations and their visual counterpart are both experienced by the patient together. Hallucinations are of two types Hypnagogic and hypnopompic. Both are considered normal phenomena. Hypnagogic hallucinations can occur when one is falling asleep and hypnopompic hallucinations occur when one is awake. Hallucinations can also be associated with the use of drugs, deprived of sleep, psychic behavior, neurological disorders, and delirium tremens.

Thus Hallucinations happen to persons when he or she sees, hears, smells, tastes or feels things that actually don't exist outside their mind. They are common in people with disease like schizophrenia, and are usually experienced as hearing sounds or voices.

Hallucinations can be scaring as they may not be expected or wanted, but there is usually a easily known cause. They occur due to the following :

- taking illicit drugs or alcohol
- a mental illness such as schizophrenia ordementia
- a progressive neurological condition such asAlzheimer's disease or Parkinson's disease
- blindness caused by macular degeneration – this is known as Charles Bonnet syndrome

1.3 DREAMS

The scientific study of dreams is called as Oneirology. The modern research is working on correlations in between dreams and brain functions. The studies are conducted to understand the working of brain during sleep, during dreams, memory formation as well as in mental disorders. The psychic dreams can either be realistic or they may be symbolic in nature. The realistic dreams can be in quite detailed and they are easy to understand. While symbolic psychic dreams can appear to be unrealistic and they are difficult to interpret. ESP and dreams are closely linked according to scientific research. They seem to indicate that in a dream state, the mind no longer is aware of the any restraints that individuals put on themselves as to what is or isn't possible with the subconscious mind. Therefore, psychic dreams become possible.

1.4 OUT OF BODY EXPERIENCES (OBEs)

Some people have experienced a sensation of floating or roaming or flying outside one's own body. They claim to perceive their physical body from outside like autoscapy. In such experiences people feel their subtle body floating around the gross body. In Hindu Vedas, they say that a spirit has three body covering in the physical world. They are gross body made of 19 elements and is the physical body or outer covering. This is the wakeful state of spirit. The second body is subtle body, also made up of 19 mouths or elements but in subtle form. This is the dream state. The innermost body is causal body representing the deep sleep state. In OBE experience the person comes out of his/her body and floats in air and can see the world and things around. The term OBE was coined by George N.M.Tyrrel in year 1943 in his book 'Apparitions'. Earlier OBEs was also referred to as astral projection, soul travel or spirit walking. Soon researchers such as Celia Green and Robert Monroe also adopted the term OBE. There are many reasons that may cause an – Out Of Body Experience, such as due to brain traumas, sensory deprivation, NDEs, drugs, sleep, electrical stimulation of brain, dehydration, etc. According to past researches one person in every ten has experienced OBE, once, twice or many times in their life. According to Scientists OBE is caused by various neurological and psychological factors. They consider OBE as a type of hallucination. People, who have experienced OBEs, also undergo early stage of lucid dreams. These people have also reported that before OBE, they have sleeplessness state due to noise or other disturbances.

Many Esoteric literature OBEs is referred to as "astral projection". It can be considered a neutral term to explain the state of consciousness that is located somewhere away from the physical body. Susan Blackmore, a British psychologist referred OBEs as cognitive map and altered mental model where mind perceives the world, the surroundings from a location that is outside the body. In some scientific experiments, the persons who have experienced OBEs have also perceived distant events. This has proved that during that time, their consciousness is located in that distant location of the event. Thus OBE is a strong altered state of consciousness as it is an intermediate position of brain, the true location in the body and the mind outside the body. The human mind constructs the feeling of occupying a body, and now scientists are trying to find out how the brain produces that experience.

The brain incorporates information from many senses, it creates a sense of body ownership. But it is still not clear how the brain finally perceives the body's location in space. Blackmore also concluded that about 15-20 % of the population have OBE sometime in their lives. In some experiments, it is proved that by electrical stimulation of the right angular gyrus, an OBE can be induced. The right angular gyrus is located in between the temporal and parietal lobe junction. Many people experience OBE when they are near death.

Susan Blackmore is known as world's leading researchers and authorities of OBEs and NDEs. While in Oxford University in 1970s, she had OBEs. She had conducted experiments of OBEs by using drugs on her own self. In her first year only she took marijuana drug and after few hours on Ouija board she had an OBE. She had sleeping problems during these experiments. She explained her experience of OBE as in a fairly peculiar state of mind. During OBE, she went through the tunnel of trees toward the direction of light. She floated on the ceiling and saw her body below. She also described that she saw a silver cord that was connected to her astral body during OBE. She then described having been floated outside the building around the Oxford and then floating over England, crossing Atlantic and returning back to New York. After floating over New York she returned to Oxford and became small in size and entered her body's toes. Then she grew bigger as large as the universe.

Blackmore described her experiences as brain process due to neuronal disinhibition in the visual cortex. She did not consider OBE as abnormal psychology but devoted her study to astral projection and theosophy.

Thus OBE can be explained by believing that consciousness is a separate entity from the physical body i.e. dualism and both can exist without each other.

1.5 NEAR DEATH EXPERIENCE:

This is also an experience of the astral world different from the physical world. Scientists Osiris and Haraldsson conducted surveys of death bed observations of Doctors and Nurses. They concluded in their research that NDEs duration were very short and most of the apparitions were of the patients relatives coming from another astral world. Most patients reported to have been to the

other world. But most of the NDEs were of peace and serenity and religious experiences. Many people do not reveal anything after NDEs. But it has been noticed that people described similar experiences of NDE in appearance. Many described about dark passage opening into bright light and enlightened tunnel just as explained in many religious meditational experiences. They also reported positive transformations in lifestyles after NDEs.

2 EXTRA SENSORY PERCEPTIONS AND TESTING METHODS

The word ESP was coined by Rhine and is now used extensively in parapsychology and neuroscience. ESP is described by many other concepts like remote perceptions, NDE, clairvoyance, OBEs etc. There is growing scientific evidence to suggest and prove the possibility of acquiring information that is apparently received independently of the sensory processes, as in extrasensory perception (ESP), and of action of mind over matter independent of the motor system, psychokinesis (PK). The phenomena with which scientific parapsychology deals are designated as psi. Psi includes both ESP and PK. There are also a number of cases in which a person is believed to remember events that are alleged to have occurred in their previous lives.

According to some surveys most psychic experience happens in dreams. Thus dream state can be considered as psi-conducive. With the invention of dream monitoring techniques it made possible by the discovery of such psychological correlates of the dream state as rapid eye movements (REMs). This has also opened opportunity to study ESP testing in laboratories. The Maimonides dream research experiments involved two experimental controls. The subject and agent persons had to spend the night in the laboratory. The subject was wired up for monitoring brain waves and eye movements. He/she had to spend the night isolated in an acoustically shielded room. The agent, who was to send the telepathic message, under the supervision of a second experimenter, was located in another room. When the subject entered into a period of REM sleep that is deep sleep when dream occurs, the monitoring experimenter buzzed the agent to begin sending the telepathic message. The agent in turn concentrated on the target picture given to him by the second experimenter. The target picture enclosed in a packet was randomly chosen from a pool. The agent did not open the packet until he/she was securely isolated in the sending room. Around the end of each REM period, the experimenter monitoring the subject awakened the subject and asked him/her to describe the dream. This procedure was repeated all through the night. At the end of the night session, the subject was again asked to give the impressions about the night's target picture. At this point, both the experimenter and the subject were completely blind to the target.

2.1 EXTRA SENSORY PERCEPTIONS

ESP is a phenomenon related to the study of perception. The belief is that one can have a perceptual experience without any sensory input. Types of reported ESPs include

- mental telepathy, the ability to read another person's thoughts
- forecasting, the ability to predict future incidents accurately
- clairvoyance, the awareness of some event that one cannot see
- psychokinesis, the ability to cause things to move by virtue of thought processes

Extrasensory perception (ESP) occurs independently of the known sensory processes. Many experiments on ESP have given significant results but still many scientists continue to doubt the existence of ESP powers. People with ESP powers have also been used by investigations agencies to find missing persons or things. ESP—is defined by parapsychologists as the acquisition by a human or animal mind of information it could not have received by normal, sensory means. A parapsychologist is a scientist who is seriously interested in the paranormal, which includes telepathy, clairvoyance, precognition, psychokinesis, hauntings, reincarnation, and out-of-body or near-death experiences.

2.2 PSYCHO KINESIS

Psychokinesis (PK) is the process of using only the mind, with no physical intervention, to manipulate physical objects. When the manipulation involves moving an object by mental effort, it is called as telekinesis. A person named Uri Geller claims that he can bend keys and spoons, and also could stop watches with thoughts. Many could roll pencils or move objects by mere act of will. There are impressive magic tricks used to show psychokinetic powers. Magicians can make objects fly in room. Scientists are investigating PK since 19th century.

PK can occur spontaneously and deliberately which indicates it is both an unconscious and conscious process. The word psychokinesis is derived from Greek word psyche which means breath, life or soul, while word kinein means 'to move.' The tactics of psychokinesis were reported from ancient times. These activities were attributed to holy persons as well as magicians. PK included levitation, luminosities, miraculous healings, etc. PK is mentioned in the New Testament of the Bible, in the Book of Acts, in Hindu Vedas and in many other holy books. In one of the Chapter it is cited that St. Paul and Silas where imprisoned in Ephesus where they prayed and sung hymns, and at midnight their shackles fell off as the prison doors swung opened (Acts 16:19-40). In Mahabharat

Epic also the water level of river Yamuna lowers when Vasudeva was crossing the river holding Krishna with him. Similarly magic spells, curses, and rituals to control the weather may involve PK. The use of the evil eye has been placed within this classification. Manifestations of PK have occurred in spiritualism. In 19th century, a person named D.D.Holmes was popular for his ability to levitate and to handle hot coals and he never got burnt. Some other individuals use to experience high voltage syndrome and were known as electric people. They could make furniture also to fly across the room by mere touch. In 20th century, in Soviet Union and the United States PK became fastest growing fields of research in parapsychology.

An American parapsychologist at Duke University in North Carolina, J. B. Rhine began conducting PK experiments in 1934. Although he was not the first to study PK, he did so after conducting ESP experiments that gave significant results. Rhine selected a gambler as subject for his research. This subject claimed that he was able to influence the fall of the dice to roll certain numbers. In the publication of his experiments Rhine reported that he observed that PK does not seem connect with any physical process of the brain, or to be subject to any of the mechanical laws of physics. Rather, it does seem to be a nonphysical force of the mind which can act on matter in statically measurably ways and the results produced cannot be explained by physics.

Rhine further concluded that PK was similar to ESP in that both were independent of space and time. ESP was a necessary part of the PK process, and that one signifies the other. He said that in order to exert an influence over matter, such as tossed dice, ESP has to come into play at a critical point in space, and at the right moment in time. Both PK and ESP were influenced by drugs, hypnosis, and the subject's state of mind. Rhine believed that faith healing and folk magic healing were PK phenomena, in which a psychogenic effect, sometimes at a distance, was exerted on the body. Rhine's research marked the beginning of a new era in PK experimentation. Following his work the experimentation of PK was divided into two categories: macro-PK, or observable events; and, micro-PK, weak or slight effects not observable to the naked eye and requiring statistical evaluation. More emphasis was placed on the micro-PK.

During the late 1960s a new method of testing micro-PK was developed by the American physicist Helmut Schmidt. His apparatus known as the "electronic coin flipper" operated on the random decay of radioactive particles. As the decay occurs the particles or rays are emitted at rates which are unaffected by temperature, pressure, electricity, magnetism, or chemical change. Such a rate of emission is completely unpredictable and cannot be manipulated by fraud.

In experiments subjects were asked to exert their mental energy to influence on the flipping of the coins, so to attempt to make them come up heads or tails so the bulbs on the apparatus would light up in one direction or the other. Some subjects did successfully influence the coin toss. The electronic coin flipper was the prototype of random event generators, computerized techniques which have since played a major role in both ESP and PK testing, and have produced significant PK test results. Many PK experiments included animals and plants. PK has been observed in enzymes and micro-organisms.

There are many types of PK activities. Currently the research is focused in the areas of meditation and other altered states of consciousness. In the retroactive PK experiments the subject try to influence an event by a random event generator. The physical nature of psychokinetic effects contrasts with the cognitive quality of ESP. Levitation is the result from powers of psychokinesis. Levitation demonstrations are quiet popular in theater magic shows.

2.3: VARIOUS METHODS FOR TESTING ESP AND PSYCHIC POWERS

There are several methods such as interactive online tests that allow subject to predict or influence randomly chosen events. Some of the tests are mentioned below:

TEST 1: THE COLOR WHEEL TEST

Many Psychic Directory provides ESP tests. In this test, a color wheel with radiating 10 different colors is taken. The computer randomly choses one of these 10 colors. The task for person is to click the right color that is chosen by computer by merely using your senses. The scoring rate is provided along with the color wheel.

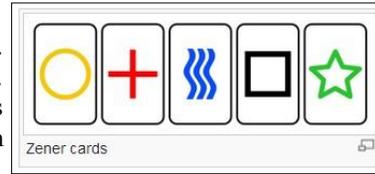
Scoring Rate for Color Wheel test :

4 Points	For a correct choice
3 Points	For 1 pie away
2 Points	For 2 pies away
1 Points	For 3 pies away
0 Point	For 4 pies away

The people scoring 4 points have good psychic powers and strong ESP.

TEST 2: THE ZENER CARDS

The Computer set of Zener cards are used by hexatron psychic trainers. Zener cards are set of five cards, in which each card has a distinctive symbol on it. The computer randomly chooses any one type of card and the person has to guess and click the right card using his senses. There are many websites that help in online ESP testing and also in strengthening the psychic skills.



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TEST 3: QUESTIONNAIRE SURVEY METHOD

The sample Questionnaire are given in the end of dissertation. The Questionnaire includes the personal information of the participants, maintaining their privacy. The questions asked are about the unusual experiences, dreams, intuitions etc. they ever had in their lives. The real incident stories are also noted to find evidences of extrasensory perception.

3 CASE STUDIES ON ESP

3.1 WORKS OF JOSEPH BANKS RHINE

Joseph Banks Rhine also known as J. B. Rhine, was an American botanist who founded scientific research in parapsychology as a branch of psychology, founding the parapsychology lab at Duke University, the Journal of Parapsychology, the Foundation for Research on the Nature of Man, and the Parapsychological Association. Rhine wrote the books *Extrasensory Perception* and *Parapsychology: Frontier Science of the Mind*.

J B Rhine is widely considered to be the "Father of Modern Parapsychology." Dr. J B Rhine coined the term "extrasensory perception" to explain the ability of some people to acquire information without the use of the known five senses. He also adopted the term "parapsychology" to distinguish his interests of ESP from mainstream psychology.

The experiments of Duke on telepathy, clairvoyance and precognition used specially designed Zener cards. About the size of regular playing cards, these cards were composed of decks of 25 cards, with each card having one of five symbols on one size: a cross, star, wavy lines, circle and square already mentioned above.

J B Rhine's work was summarized in a book named, Extra-Sensory Perception After Sixty Years (Rhine, J.B., Pratt, J.G.; Smith, Burke M; Stuart, Charles E; and Greenwood, Joseph A).

Rhine Research Center in Durham is still devoted center for parapsychological and cognitive research. He tested many students as volunteer subjects in his research project. His first exceptional subject in this ESP research was Adam Linzmayer, an economics undergraduate at Duke. Linzmayer scored very high in preliminary Zener card tests that Rhine ran him through. He scored 100% correct in tests given by Rhine. But late when Linzmayer was going through boredom, competitions, distractions etc. he scored very less. In 1934, Rhine published the first edition of a book- *Extra-Sensory Perception*, which was widely read over the next decades. Later in 1930s, he worked on psychokinesis, in a laboratory settings. He observed how a subject person could influence the tossed dice and get desired results. The dice was initially hand-thrown dice, than dice thrown from a cup and then with machine thrown dice.

3.2: Psi STUDIES OF LOUISA E RHINE

Dr. Louisa Rhine (1891-1983) along with her husband, J.B. Rhine, helped bring credibility to the study of psychic phenomena. She had earned BS, MS, and PhD degrees in botany at the University of Chicago. She and her husband moved to Durham at the invitation of John Thomas to study psychic phenomena at Duke University. Dr. Louia E. Rhine was actively involved in the daily functioning of the Duke Parapsychology Laboratory and carried out many experiments of her own. Her major contribution and recognition is the research on spontaneous psychic experiences. She had received over 30,000 letters sent to her by individuals from across the world mentioning their experiences. The focus of her study of spontaneous cases was to see whether these cases would throw any light on the psi process and provide ideas. Her first book, "Hidden Channels of the Mind" (1961), included summaries of her study of spontaneous cases. Her book "The Invisible Picture" (1981) also showed richer overview of her life's work. Dr. Rhine's final book, "Something Hidden" (1983), offers a poignant view of her life with J.B. Rhine.

J.B.Rhine focused on lab experiments and not on dreams. But Louisa studied ESP in dreams, visions, intuitions, etc. She also studied their effects on real life. She had a massive database to study as over the decades, the Rhine Institute had collected some 14,000 accounts of ESP experiences. Her 1961 book *Hidden Channels of the Mind* is a broad study of the different types of ESP, and a good attempt at taxonomy of the paranormal.

"Once the nature of this variation is recognized, the initial confused and baffling aspect of ESP experiences fades away and one can see that they come in quite natural and even familiar ways. For after all, everyone has dreams and intuitions, whether or not the burden of any of them is supplied by ESP. And everyone has at least heard of hallucinatory experience, whether or not he has known it personally, or realized that it, too, could be a vehicle of expression for information coming in by hidden channels. These are normal, ordinary and familiar forms of mental life. Once this fact is accepted, another quickly emerges, name: ESP has no distinctive form of its own."

-----Louisa Rhine, *Hidden Channels of the Mind*, 1961, p. 68

3.3 : THE NEUROPSYCHIATRY OF PARANORMAL EXPERIENCES - By M.A.Persinger

Michael A. Persinger, born June 26, 1945, is a cognitive neuroscience researcher and university professor with over 200 peer-reviewed publications. He has worked at Laurentian University, located in Sudbury, Ontario, since 1971. He is recognized primarily for his experimental work in the field of neuro theology. He stimulated people's temporal lobes artificially with a weak magnetic field to see if he could induce a religious state. He claimed that the field induced could produce the sensation of "an ethereal presence in the room". He got great publicity for this research and he received wide coverage in the media, with high profile visitors to Persinger's lab .

According to Michael A. Persinger, Ph.D., C.Psych. from the perspective of modern neuroscience all behaviors and all experiences are created by the dynamic matrix of chemical and electromagnetic events within the human brain. Paranormal experiences and ESP might be considered a subset of these neurogenic processes. Experiences that are labeled as or attributed to paranormal phenomena are frequently dominated by a sensed presence and they also appear to involve the acquisition of information from distances beyond those normally obtained by the classical senses. They imply distortions in physical time. Most paranormal experiences have negative affective themes with emphasis on some aspect of death to others or dissolution of the self. The physic experiences concerning someone's death occur in night around 2:00 to 4:00 A.M. The ESP senses are active in this nocturnal period.

The God Helmet or Koren helmet was invented by Stanley Koren. Koren alongwith Michael Persinger, developed an experimental apparatus to study the effects of subtle stimulation of the temporal lobes in the brain. After wearing the Koren Helmet, the participants of the experiments had an experience of "sensed presence" that eventually brought attention to everyone. Persinger used this device in the neurotheology research. Neurotheology is the study of correlation in between neural science and religion and spirituality. When the participant wears the Koren Helmet on head, he is subjected to very weak fluctuating magnetic fields. Persinger called these magnetic fields as "complex", they were strong just like those produced by a simple hair dryer or a land line telephone. These "complex" were weaker than magnetic fields of refrigerator magnet and transcranial magnetic stimulation. The results of these experiments were the positive mystical experiences of God, as reported by the participants. Thus the experience of an altered state of consciousness was obtained by these Koren Helmet experiments bringing neuroscience and spirituality closer. Many people also criticized the foundations of Persinger's theory.

Experiences of God

Persinger proved that brain correlates the epileptiform activity over the right temporal lobe with all paranormal experiences. He performed this experiment on a middle aged woman who reported with a radiant smile, to have experienced God's presence. The study of the brain mechanisms and electromagnetic patterns within the brain that generates the God experience should be considered one of the most important challenges and the neuroscientists must respond to it.

According to the modern neuroscience, all experiences are generated by brain activity. The all paranormal experiences are correlated with brain activity. The complexity of this brain activity is mapped and described mathematically by various brain mapping techniques. All paranormal experiences are explained by neuroscientists as known brain functions. The consideration of these experiences as predictable components of brain activity will allow the differentiation between the illusions of intrinsic stimulation and the validity of information obtained through mechanisms that are yet to be explained.

4 : EXPERIMENTS AND SURVEY TO TEST ESP AND THEIR RESULTS

4.1 Test 1 : ESP Color Wheel

Many people are believed to have psychic ability and power, modern technology and science have been studying it for years. Parapsychology is the study of mental phenomena, such as telepathy and extra sensory perception, that can't be proven or explained by scientific principles. ESP color wheel tests are to measure the degree of psychic ability.

We all possess telepathic powers to some degree and we can improve them. Many people can predict future happenings like earthquakes, people's aura, etc. Many have strange experience many times in their lives. The ESP Color wheel test has been developed to measure how strong the telepathic abilities are present in an individual. This test provides psychic directory. As already explained above the participant has to guess the color by using his senses.

Method :

Certain rules are made for the participants of color wheel test. Each will be allowed 10 guesses to predict the correct color. Each participant is given 3 minutes to complete 10 predictions. After that the ESP ratings is displayed.

Prediction for correct color	Score in points
Correct color	4
1 pie away	3
2 pies away	2
3 pies away	1
4 pies away	0

Participant should concentrate on what color will appear next in the correct color box. One should keep their focus each time.

Total score	Psychic Ability
10 to 20 points	Weak / or not tried
21 to 30 points	Scattered psychic ability
31 to 40 points	Tapped into extra sensory perceptions

I conducted the color wheel test on girls between 17 to 26 years old. The results are given in the end. I have found that psychic abilities are quiet remarkable in girls. The effect of surroundings and the society has great impact sometimes on the psychic abilities I guess.

4.2 Test 2 : The Zener Cards

The second test I conducted was of the Zener cards. The computer set of 5 cards, each with distinctive symbol were used here. The computer selects any card randomly and with the psychic ability the person has to guess and click on the correct card. We found different magic number value in different subjects in Zener card results.



Psychologist Karl Zener (1903-1964) had designed the cards for experiments for extrasensory perceptions and clairvoyance, conducted with his colleague, parapsychologist J.B.Rhine (1895-1964). He developed a deck of cards made up of five different simple symbols, a hollow circle (one curve), a Greek cross (two lines), three vertical wavy lines (or "waves"), a hollow square (four lines), and a hollow five-pointed star. There are 25 cards in a pack, five of each design. The cards should be shuffled properly. The care has to be taken that there is no marking on any of the cards. Rhine used to shuffle cards manually by hand, but later he used machine for shuffling. A correct "guess" is called as "hit". The results obtained from 20 participants, 18 to 26 years age, gave 20 % of right guess reports.

According to Rhine, it is not sure that the participant got correct information about right guess from sender's mind (telepathy) or by his own psychic powers. Thus this test cannot distinguish between telepathy and clairvoyance.

4.3 Test 3: Questionnaire Survey

In ESP testing through survey, a questionnaire is prepared. The questionnaire includes questions about interviewer's experiences about different extra sensory perceptions and their opinions. The questions are designed about ESP dreams, telepathy, out of body experiences or near death experience and intuitive powers of the participants. I have made few questionnaires and conducted survey among Polytechnic girl students, aged between 16 to 21 years. The questionnaire is attached in the end. The results of the survey are given below.

Result from Questionnaire :

The survey was conducted among female students of age varying from 16years to 21 years.

Paranormal Activity	% of Students who have experienced
Esp dreams	46%
Waking Dreams	67%
Aura	32%
OBEs	57%
Apparitions	61%
Past Life Dream	46%
Lucid Dreams	86%
Deja Vu	89%
Colours with sound	36%
Colours with Letters	22%

4.4 Test 4: ESP in Dreams during REM

Mechanism of Dreaming

Dreaming occurs mainly during REM, rapid eye movement, sleep. During this period, brain scans and brain activity recording have shown maximum activity in the limbic system and the amygdala. Current research reported that dreams can occur in both REM and non REM periods and they differ qualitatively and quantitatively.

REM Sleep Testing : In this kind of experiment the subject with maximum extra sensory powers are selected. The subject is selected along with a close relative or close friend with whom subject has special bonding and attachment. The relative of subject is made to sleep in Dream laboratory and in other room the subject participant is shown some pictures. When the sleeping participant reaches REM sleep, the subject has to convey the images to sleeping person via telepathy. The sleeping participant is woken up from REM sleep after images are conveyed by partner. It has been found in past experiments that the sleeping participant describes the images conveyed to him/her by the subject participant through telepathy were exactly the same. This proves that there are some extra sensory powers that exists and they don't require sense organs for communication or passing a message.

I want to discuss here the vast collection of spontaneous cases studies by Louisa E. Rhine. She had analyzed all these cases very systematically. She had found that people receive information from another person's consciousness in a non-sensory manner i.e. telepathy, clairvoyance and precognition. She also studies mysterious physical effects of psychoKinesis (PK). She analysed that psi is a two stage process. The first stage is at unconscious level where psi information is acquired in non-physical process. The second stage is moreover a psychological process where the unconscious information is projected as awareness. Louisa mentioned in her work that there are four forms psi information that manifests itself into our awareness. She termed these four as meditating vehicles. They are Realistic dreams, Unrealistic dreams, Hallucinations and Intuitions. According to some surveys 65 per cent of spontaneous psychic experiences occur in dreams and hence it is natural to consider the dream state as psi-conductive. With the advent of dream-monitoring techniques made possible by the discovery of such psychological correlates of the dream state as rapid eye movements (REMs), the opportunity has come about to study ESP dreams in laboratory settings.

5 : THOUGHTS ON IMPORTANCE AND RELEVANCE OF PARANORMAL AWARENESS

5.1 The Paranormal awareness with respect to Religion

Personality traits are not simply an explanation of static inter individual differences according to research related to personality and development. The personality also depends on organizational constructs which influences how people organize their behavior, process any information and adapt the social environment. There is definitely a deep connection in between religious beliefs and paranormal belief, which is still has to be explored.

Many past researches have given results of correlations in between paranormal and religious beliefs. According to Tobayck and Milford, traditional religious beliefs have positive correlation with witchcraft and precognition. They also concluded negative correlation with belief in spiritualism and no distinct with belief in Psi, superstition, and extraordinary life forms. On the other hand, Clarke found positive correlation in between religiosity with belief in psychic healing and negative correlation with UFO belief. The differences in results were due to different measurements used to understand paranormal belief. There was no proper method to measure religiosity. It was performed by mere attendance or by traditional beliefs of religion.

The personality of the person correlates with paranormal beliefs according to research by Thalbourne, 1981; Thalbourne, 1980; Eysenck, 1967) and Neuroticism (Thalbourne, Dunbar and Delin, 1995). The specifically linked subscales were: psi related belief, spiritualism, precognition and traditional religious beliefs. Gender differences have also been reported. Women tend to score higher than men on global paranormal belief but men having stronger beliefs in the existence of UFO's and extra-terrestrials.

In summary then, this study showed that religious beliefs and paranormal beliefs are indeed associated, confirming initial exploratory studies that suggested some kind of relationship between the two. Conscientiousness was found to be the only personality factor that significantly predicted paranormal beliefs and it was negatively correlated to other such beliefs. No significant gender differences were found on either global paranormal belief or on any of the seven subscales, in contrast to previous studies. The religiosity and paranormal beliefs also depend on religiosity of individuals. The people with more religiosity have more extra sensory powers and experience more paranormal and esp activities.

Ref: (Clarke, 1991; Rice, 2003; Tobayck and Milford, 1983; Wolfradt, 1997).

5.2 The Paranormal awareness with respect to Science

There has been extensive research to study the paranormal phenomenon in spite of impossibility of its occurrence. Yet there has not been any uniformly accepted validation, acceptance or explanation by scientific community. To clarify and explain the ESP and paranormal phenomena, it is essential to place them in terms of modern science. These explanations should be clear and must also be looked from the point of modern science. Many countries do not accept the existence of psychic powers. ESP has not fared 100% result in scientific conditions. But the research is still going on.

The past research experiments include Zener card tests that were selected randomly and the person would try to guess it. Research during 1930s and 1940s J.B.Rhine used the idea that people with sharp esp can affect the outcome results of random events by using their minds. In his experiments Rhine began to use dice rolls. The subjects have to try and influence the outcome of dice roll with concentration. The results were enough to prove something mysterious.

By 1960s computer technology were used to influence the outcome of random number generators. Many researches were done in decades to find evidence for existence of esp. An emeritus professor at Cornell University, Daryl Bem, spent much of the past decade conducting experiments that to demonstrate that psychic powers exist. He tested the ability of college students to accurately sense random events, like to detect where an image will flash on a computer screen. Bem's research was published in "The Journal of Personality and Social Psychology."

Thus ESP studies can be characterized as inconclusive. Some of the studies suggest evidence of some kind of psychic ability; others don't.

5.3 Paranormal as Bridge in between Science and Spirituality

Religion has always believed in extra sensory perceptions and paranormal awareness. In science also we can record the activity of a single brain cell. We can produce images Science can also find the role of different chemicals in the brain and their impact on human behavior. Neuroscience now understands the spiritual masters of the previous years, last 2000 plus years, who explained that true power is found in silence. A life that acquires time for stillness and silence is very well able to understand the depths of the ocean of

consciousness. It has been found that the people who possess paranormal awareness and psychic ability generally become silent and quiet. It is in these hidden depths of silence that all things are understood. But the pace and the superficiality of the modern time doesn't allow us easily to access to the power and wisdom of silence. Silence is the biggest offering of spirituality as it offers insight, clarity and balance. A basic understanding of the primary elements of the brain is quiet helpful to perceive the growing research in neurotheology. The latest brain mapping experiments helps in learning the secrets of thoughts and psychic powers.

It was Hippocrates who discovered the importance of brain in understanding the behavior in the 5th century BC. With time the science developed and the uniqueness and the strength of the brain was discovered. Now the modern science can see the world in almost anything a grain, the stars, the galaxies, plants, animals, an atom, or development of human brain. All these research result finally into the mystery of life. And the universe.

The modern mystics like quantum physicists, cyberneticists, molecular biologists, computer scientists, mathematicians, neuroscientists, etc. have explored the depth of sciences and explained the unity of all. Thus the gap in between science and spirituality is only due to different language, but both are saying the same thing. Science has proved that the world is not a large clock and God a detached clock maker. Physicists also mentioned that the observer can affects the observation. We conduct subjective experiments due to our mind, thoughts and expectations deriving the results that we expect.

Thus science also believes that in the universe the whole is contained in each and every part. Thus science describes the universe as the movement of quantum energy and is based on coordination of thoughts and consciousness. Thus we can see the whole world in a small sand grain or in the stars or in the human body. That is what microcosm and macrocosm is all about. The astrology also explains the same. The pattern of the stars in heaven affect our lives through the implicate order. We can go in our own consciousness and tune into the implicate order, and then we can see the totality of time and space for whole universe. Physics also says that we are actively involved in the process of creation. We can flow from explicit order through our mind and consciousness and then re-write all the information in the implicate or super implicate order. Thus we have freedom to choose our futures. We have ability to erase our future and write it as we desire.

The mathematics also tell us like psychology, that synchronicity is real and we can create desirable things. Thus from the ancient times the science and religion were the two ways used by man to understand the world. Now these two different branches are coming together to find the truth. Science explains spirituality, and spirituality also explains the science. By communion of their differences both of them can be understood and experienced.

CONCLUSION:

Almost every one of us has experienced at one or another time about a ESP. Dreaming of a person whom one has not met in months and suddenly receiving a letter or phone call from that person. Or recognizing the telephone caller correctly before picking up the phone. These are the common incidents. But the paranormal event of shocking or dramatic happenings gets noticed easily. In the psychic tests we conducted, we found that extra sensory perceptions are present in everyone but are express in different values depending upon the level of consciousness of the individual.

The parapsychological society every one of us have some degree of ESP present in us. In some the ESP are sharp in childhood and it inhibits as person matures. Most of the psychologists including Sigmund Freud have stated that telepathy may have been the original manner used by people to understand each other. With evolution in communication methods, the original archaic methods were pushed aside. But these methods do persist in human subconscious mind. Some people act according to their moods and psychic nature can draw and develop ESP abilities. While some gifted people who possess more psychic powers are regularly able to practically use rare power of psi. Many people are incapable of effective communication in everyday life, are capable of communicating at telepathic level. They surprise everyone with a telepathic dream of rich awareness, even about other person's life. Psi phenomena are completely spontaneous in nature and are not governed by elements of moods or emotions. A percipient is not aware of any ESP within him during experiment. In fact, in laboratory work, the conscious effort within self to find any psi completely destroys it or diminishes the effect. Someday psi phenomena will get recognition as a kind of energy which pervades space, time and matter. With brain mapping techniques scientists are trying to study psi phenomena. On the other hand religion and spirituality have always believed in paranormal phenomenon since ages. Hence we can conclude that such psychic powers or abilities can bring science and spirituality together making a connecting bridge of it.

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