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An Examination and Explanation of Paranormal Phenomena as a Legitimate and Significant Area of Communication Studies

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AN EXAMINATION AND EXPLANATION OF
PARANORMAL PHENOMENA AS A LEGITIMATE
AND SIGNIFICANT AREA OF COMMUNICATION STUDIES

by

Leonard O. Sowers, Jr.

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Submitted to the
Faculty of The Graduate College
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of the
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Leonard O. Sowers, Jr.
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CHAPTER ONE
INTRODUCTION TO THE PROBLEM

This study was intended to determine whether extrasensory percep­tion and projection (ESP) or paranormal phenomena are important means of communication, and whether such phenomena are legitimate areas of academic study.

The study was undertaken from a bibliographical or historical approach. The survey approach was immediately ruled inapplicable by the investigator as not truly addressing the nature of the problem. Initially, much consideration was given to the experimental approach. However, while reviewing the literature in an attempt to lay a foundation for subsequent experimental consideration of the problem area, the investigator determined such a foundation to be lacking. This failure to find a proper and suitable foundation prompted the investigator to utilize the historical or bibliographical approach. It was the purpose of the study to lay such a foundation. As will be seen, the study focused essentially on three criteria: legitimacy, importance and the nature of paranormal phenomena.

STATEMENT OF THE PROBLEM

The study (culminating in this report) sought to resolve three questions.

1. Is extrasensory perception a valid phenomenon and/or a legitimate area of academic and scientific study?

2. Is extrasensory perception an important means of communication?
3. What is the nature of extrasensory perception?

NEED FOR THE STUDY

The investigator initially observed that a number of people would probably question the need for any such examination of paranormal phenomena in the first place. There are those who "intuitively know" that paranormal phenomena are real occurrences. Alternatively, there are those who have no doubt that such phenomena are, of course, impossible. Both groups, in the investigator's opinion, best illustrated the importance and need for the study. Attitudes (especially in the United States) towards paranormal phenomena consisted of reactive emotional impressions with little if any regard given to a determination of the facts. In the investigator's opinion such attitudes (whether supportive or critical of the validity of paranormal phenomena) were both unscientific and damaging to the serious consideration of these phenomena. Indeed, Leathers (1976) identified the "true believer" in ESP as a major obstacle to acceptance of serious research in this area: "... the true believer also presents a problem for the dedicated parapsychologist. Ironically, the disbelievers in psychic phenomena often disbelieve because they find the true believers so unbelievable." (p. 170). Leathers went on to say "The field of extrasensory perception and extrasensory communication has often been attacked because of the gullibility of the true believer ..." (p. 190).

The need for the study was further underscored by the lack of a comprehensive method for consistently describing the significant variables in the examination of paranormal phenomena. In the review of
the literature it will be seen that there were practically as many
theories attempting to explain paranormal phenomena as there were
authors on the subject. Generally, these theories were marked by in­
ternal inconsistencies, a lack of credibility, and a failure to ex­
trapolate explanations of the authors' selected phenomena to other
phenomena worthy of serious consideration.

The investigator observed a final but equally important need for
undertaking the study. Overall, the history of psychic research to
date in the United States (as well as elsewhere in the world) had
been limited to those in the discipline of psychology (parapsychology
being an offshoot of psychology). The investigator observed the
importance of (1) examining paranormal phenomena from a communication
perspective, and (2) categorizing current theories of paranormal
phenomena.

SOME INITIAL DEFINITIONS AND TERMINATION OF TERMS

Initially, a few terms should be further elucidated for the sake
of clarity. In the process a number of these terms have been cast
aside as the terms have been popularly misused and contribute to the
skepticism surrounding the study of paranormal phenomena.

Psychic

"Psychic" pertains to phenomena that violate the known laws of
the universe. This meaning has come to be the popular usage of the
term. However, as Sanderson (1970) pointed out such phenomena are not
"psychic" at all.
Herein (Webster) we find the word psychic defined as: - "1. Of or relating to the psyche." (Referring back a few lines, we find this in turn defined as "(a) A beautiful princess of classical mythology loved by Cupid. (b) Soul, Self; also Mind.") Webster then goes on about psychic as follows: - "2. Lying outside the sphere of physical science or knowledge; immaterial, moral, or spiritual in origin or force. 3. Sensitive to nonphysical or supernatural forces and influences."

The Oxford dictionary gets to the point more simply and directly, and is much more succinct. It states simply: "Non-physical force assumed to explain spiritualistic phenomena." (pp. v-vi).

Sanderson continued by listing some of the items popularly referred to as "psychic:"

Mental Telepathy; Hypnotism; Faith healing; Precognition; Psychokinesis; Auras around plants and animals; Brain Control; Mind Patrol; Astrology; Levitation; Sightless - i.e. eyeless - Vision; Dowsing; Acupuncture; Witchcraft; Prophecy; Alchemy; Psychotronics; and what we naively call "ESP." (pp. vi-vii).

Importantly, not even the largest dictionary (the multi-volume Oxford) refers to any of the aforementioned items as "psychic." Having considered the term "psychic," the investigator has discarded it as confusing, irrelevant and counterproductive to the serious study of paranormal phenomena.

**Parapsychology**

"Parapsychology" is popularly referred to as the study of phenomena that violate the known laws of the universe. Literally, "parapsychology" is the study of phenomena which are like but beyond those of a psychic nature. As was the problem with "psychic," the term "parapsychology" smacks of mysticism and spiritualism. Thus, the term is both misleading and damaging to the serious study of paranormal phenomena.
Extrasensory Perception

"Extrasensory Perception" is used interchangeably with the term "psychic phenomena." The investigator found the term "extrasensory perception" to be no more accurate or descriptive than the prior two terms ("psychic" and "parapsychology"). Sanderson (1970) illustrated succinctly, when he pointed out regarding this expression "extrasensory perception:"

These...matters are indeed extra, or outside the...psychic or psycho - but they actually lie solidly within the physical. Even worse, however, is the rest of this silly term. Why only 'perception'? It includes a lot more than perception; and apart from also 'sending' or disseminating. ...But 'ESP' has now become a catch-phrase for just about everything that neither religion nor science can explain... . (pp. xi-xii).

The investigator has again discarded this term "extrasensory perception" as confusing, irrelevant and counterproductive to the serious study of paranormal phenomena.

Paranormal Phenomena

"Paranormal Phenomena" refers to events or occurrences that violate the known laws of the universe. Literally, "paranormal phenomena" are events that go beyond the norm or usual state of things. The investigator found no evidence of stigma attached to this term (as opposed to the aforementioned terms). Consequently, the term "paranormal phenomena" is used throughout this study to denote those events or occurrences which violate the known laws of the universe.
CHAPTER TWO
REVIEW OF THE LITERATURE

In reviewing the literature the investigator established three areas of examination: legitimacy, importance and the nature of paranormal phenomena. These three areas are the same as those laid out by the investigator in his statement of the problem (supra, pp. 1-2).

LEGITIMACY

The investigator observed that the legitimacy of the existence of paranormal phenomena would have to be initially ascertained. The investigator concluded that if such legitimacy could not be positively determined, then the significance of future study of paranormal phenomena would be questionable. The investigator then began his consideration of legitimacy by topically examining the various manifestations of paranormal phenomena. Telepathy was considered first, since telepathy is the manifestation which has been under modern scientific scrutiny the longest.

Telepathy

The investigator came across a myriad of interesting definitions of telepathy. Two such definitions are referred to here. Hammond (1975) suggests "Telepathy is the awareness of the thoughts, impressions, and mental states of another person." (p. 9). Wagenfeld (1976) asserts "telepathic communication" is the direct transference of "thoughts from one person to another without using the usual sensory channels." (p. 5).
At this point, both definitions have certain merits; both have certain faults. Hammond's reference to "awareness" has merit in that it does not restrict him to the notion of an exchange of information, which eliminates other approaches. However, Hammond's reference to mental states has the drawback of implying a mental explanation of paranormal phenomena, which eliminates other worthwhile approaches. Wagenfeld's reference to "transference . . . without using the usual sensory channels" has merit, since it properly delineates the parameters of telepathic phenomena. However, Wagenfeld's reference to "the direct transference of thoughts from one person to another" has the drawback of commitment to a system's approach (i.e. the traditional exchange of information), which would eliminate other scientific approaches.

The investigator, as a result, provided his own definition: Telepathy is an awareness and/or transference of information, thoughts, impressions and certain physiological, mental and/or emotional states of another person.

In surveying the literature it was found that a vast number of "authorities" expressed their belief in the legitimacy of telepathy as a phenomenon. The problem is that the sum of all of these alleged authorities' belief in telepathy adds not one iota to the actual substantiation of its legitimacy. Instead, the determination of legitimacy must be limited to a consideration of hypotheses, data, and their interpretation, which either support or discredit the legitimacy of telepathy.

A French physician named Bernheim appears to be the first "mod-
ern day researcher" of paranormal phenomena. Bernheim, who was a professor at the Nancy medical school during the late 1800's, posed such questions as - "does hypnotism lead to automatic writing? can a hypnotized person read the mind of another? is a hypnotized person clairvoyant?" Bernheim's work with paranormal phenomena is interesting as an historical origin, but his experiments' methodology and results were at best inconclusive and outdated. A number of other researchers came forth in the following years with the results of their experiments. Generally, these researchers were treated with skepticism, ridicule and insult. Coover published a 600-page conclusion in 1917 stating thought transference (telepathy) was impossible. Due to the reputation of the university (Stanford) and the actual size of the work, Coover's conclusions went largely unchallenged for sometime.

In 1930, however, McDougall, head of Duke University's psychology department, joined Lundholm, Zener and Rhine to begin investigating the phenomena of telepathy and clairvoyance. The aforementioned researchers began their determination concerning the question of legitimacy (or validity) by attempting to find someone who had telepathic ability. If the researchers were able to prove to their own satisfaction the existence of this phenomenon, then they would concentrate on the follow-up questions of determining how many people had telepathic ability and what the nature of telepathy was.

Zener and Rhine designed a special deck of cards for these telepathy experiments. The deck consisted of 25 cards with five designs: circle, cross, rectangle, solid star and two sets of parallel wavy lines. Later, three of these designs were changed to a star outline,
a square and one set of wavy lines. This has remained as the standard
desk of ESP testing cards, and they are now referred to as Zener
cards.

In 1931 the researchers began to obtain their first positive
indications regarding the question of legitimacy. A number of the
subjects' scores were evaluated as significant (i.e. approximately
6.5 hits per 25 cards). Determination of the make-up of a significant
score is indicated in Table 1. Briefly, it indicates that the fewer
runs a subject makes then the more correct calls he/she has to make
in order to indicate telepathic ability. Over a long run of calls it
is only necessary to expect numbers slightly higher than the average.

Table 1

<table>
<thead>
<tr>
<th>Average Number of Hits Per Run</th>
<th>Number of Runs of 25 Calls</th>
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<tr>
<td>5.25</td>
<td>400</td>
<td>2100</td>
</tr>
<tr>
<td>6.50</td>
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<td>550</td>
</tr>
<tr>
<td>6.0</td>
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<td>150</td>
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<td>6.5</td>
<td>12</td>
<td>78</td>
</tr>
<tr>
<td>6.8</td>
<td>8</td>
<td>55</td>
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Mathematical probability dictated that the subject would probably
identify five out of the 25 cards correctly. To maintain a higher
average than this number indicated a strong possibility of telepathic
ability.

The first extraordinary results came with the testing of a psychology student, A.J. Linzmayer. Linzmayer called the first nine cards of the deck correctly; the odds against such an occurrence are about two million to one. Linzmayer then repeated his performance on the following day. Over a period of time Linzmayer's hitting score began to decline, but his overall average for the entire series of tests was 119 out of 300 calls or approximately 9.9 hits per 25 cards. Another time Linzmayer scored 21 hits out of 25 calls.

Additional extraordinary results came with the testing of a divinity student, Hubert Pearce. On his first 5,000 calls Pearce averaged 10 hits out of every 25 calls; Pearce maintained this average for a period of over two years. Although Pearce was not generally known for making long runs of nine or ten correct calls in a row, in one run he identified each of the 25 cards correctly. Rhine called it the most phenomenal thing he had ever observed. The odds against such an occurrence are better than 298,000,000,000,000,000 to one.

One of Rhine's most noted telepathy experiments was the Ownbey-Zirkle experiment (Ownbey, a female, was the sender and Zirkle, a male, was the receiver). Zirkle averaged 13.6 hits in each run of 25 trials. Extraordinary results were obtained again in Rhine's experiment with Ownbey and Turner (a female receiver). Turner scored 19 hits out of 25 calls the first day; 16 hits out of 25 calls the second day, and 16 hits out of 25 calls the third day. Turner achieved these results while being separated from Ownbey by two hundred and fifty miles.
Hansel, leading the critics of telepathy research, offered one and only one objection to Rhine's experiments. While not charging fraud in the actual laboratory experiments, Hansel contends "simply that if fraud (or anything else, for that matter) is a possible alternative explanation for the result, then that experiment cannot be offered as conclusive proof of ESP." (1971, p. 293).

Leathers reported on the telepathy research being conducted by Ullman and Krippner at the Maimonides Dream Laboratory as one of the two most comprehensive and convincing sets of laboratory experiments (the other being Rhine's experiments at Duke's Parapsychology Laboratory). Leathers further described the efforts of Ullman and Krippner as "... the most exciting laboratory research on telepathic communication done recently ..." (1976, p. 191). Ullman and Krippner innovated a means of measuring the telepathic ability of a sender in communicating meaning(s) of an art print to the dreaming receiver. Leathers suggested the data collected by Ullman and Krippner "provide credible evidence supporting the existence of telepathic communication." (p. 191).

To the investigator's knowledge Ullman and Krippner's work has not yet been successfully challenged by critics.

In addition to the Rhine and Ullman-Krippner experiments, a great deal of successful research in telepathy and other paranormal phenomena has been undertaken in Russia and in other Eastern European Communist countries. Reports concerning ongoing research there appeared incredible. Indeed, the harshest criticism to date brought against the Communists' research has been the credibility of the results being reported.
Ostrander and Schroeder (1970) reported:

In 1967 telepathy pulsed in code from Moscow to Leningrad while sophisticated space-age equipment monitored the brain of the receiver. Soviet scientists say that with the help of the machine they were able to decode the messages; they say they were able to transmit words telepathically from mind-to-mind across four hundred miles of space. (p. xviii).

This was but one example of a great number of serious scientific experiments being undergone in the Eastern European Communist countries (additional experiments are discussed in Chapter Four). Leathers objected to acceptance of the Russian research at this time: "... the author is not willing to accept accounts of the Russian research as verified at this point and, consequently, the Russian research can certainly not be taken as scientific evidence for the existence of telepathic communication." (p. 184). Leathers continued by explaining his objection to the Russian reports.

The reader should note that the description of the Russian experiment above is taken largely from Psychic Discoveries Behind the Iron Curtain. A check of the footnotes in that volume for the section which described the telepathic research by the Russians revealed the following: one footnote cited the April 9, 1967, issue of Pravda, another footnote cited papers with extremely abstract titles which were presented in Moscow on August 4, 1967, and a final footnote cited an article in Sputnik with no page numbers given. Such sources are not likely to be accepted on the international level as models of probity and objectivity. (p. 184).

The investigator additionally found great quantities of data, opinions, plausible and implausible hypotheses supporting the legitimacy of telepathy as a phenomenon. For example, Wagenfeld pointed out:
...the field contains an abundance of experimental data some of it carried out under carefully controlled conditions (Murphy, 1961; Soal and Goldney, 1943; Rhine, 1956, 1964; Schmeidler, 1965; Thouless, 1963). These data support the hypothesis that there are people who are able to get information without the use of the five ordinary senses. (1976, p. 14).

The results of current research (Ehrenwald, 1972; Turner and Karlis, 1970; Ware and Butler, 1971; Palmer, 1971) contribute additional support to the legitimacy of telepathy. The investigator found it unnecessary to report on each of these and other studies. It was the investigator's purpose to provide the historical synthesis and not an encyclopedic history of such research.

Psychokinesis

Psychokinesis is defined by Hammond as "the 'effect' an individual produces on objects in his environment without the use of his/her own motor, or physical, system. An example of this is the ability to move an object by just thinking about it." (1975, p. 10). Psychokinesis is also known as PK and telekinesis. The investigator found experimental research on the phenomenon of psychokinesis to be far more limited than experimentation with telepathy. However, psychokinesis has become more "popularized" recently with the appearance of Uri Geller and his "Geller Effect." The investigator carefully examined both the claims for and criticisms of Geller. However, the investigator desired to preface the discussion of psychokinesis by noting that the case for the legitimacy of psychokinesis does not rest upon the determination of the legitimacy of Geller and his "Geller Effect." A number of other subjects professing psychokinetic ability must be independently
considered in determining the overall question of legitimacy.

The case for Geller

Geller claims a number of paranormal abilities including psychokinesis, remote viewing, telepathy and psychophotography (a specific case of psychokinesis in which a person "mentally" causes an image to appear on film) among others. In reviewing the literature on Geller it was found that Geller is one of the most controversial if not most important subjects professing such abilities in the Western world. Consequently, in considering Geller's alleged abilities both supporters and critics alike tend to discuss together a number of varied paranormal abilities. Ostrander and Schroeder came to the conclusion that Geller possesses legitimate paranormal abilities.

...Geller has demonstrated his ability at bona fide research labs (to) such people as Dr. Edgar Mitchell and Dr. Andre Puharich, neurologist, inventor and long-experienced psi researcher. He is the subject of ongoing research by physicists Dr. Harold Puthoff and Russell Targ at Stanford Research Institute. Geller is apparently a genuine talent. (1974, p. 171).

Geller's demonstrations of supposed psychokinetic powers have been prolific and for a variety of audiences. Geller has been studied by an array of reputable scientists who testify to the legitimacy of his psychokinetic abilities.

The case against Geller

The critics of Uri Geller (and paranormal phenomena in general) insist that Geller's "stunts" are accomplished through stage magic and trickery. Heading the list of Geller's critics is James (The Amazing)
Randi. Randi, who is a professional magician, professes that Geller's PK abilities are (1) a case of psychic fraud and (2) the product of a very talented magician (Geller).

A second criticism is frequently leveled against Geller. Leathers argued that Geller's ability (even if it is legitimate) is an example of spontaneous extrasensory perception and as such its existence can not be scientifically proved. Leathers observes specifically:

Existing reports on spontaneous extrasensory perception (i.e. paranormal phenomena beyond the agent's control) do not constitute scientific proof because (1) the events were not observed under controlled conditions, (2) the phenomena are not consistently repeatable, and (3) spontaneous extrasensory behavior has not been consistently and predictably related to other types of behavior. (p. 191).

Many volumes have been written (both pro and con) concerning the legitimacy of Uri Geller and his alleged abilities. Taylor (1975) documented an account in which Geller could not have tampered with any of the items. On November 22, 1974, Geller appeared on the Jimmy Young Show, which was televised and aired on radio throughout Britain. The broadcast allowed millions to see and/or hear about Geller's metal-bending effect. However, the effects were more wide-reaching than had originally been anticipated. Apparently, not only do metal objects get bent near Geller, but they also do so at considerable distances. Numerous viewers and listeners had found cutlery twisted out of shape and broken, or watches going which had not been working for months or even years.

The investigator finally noted that Uri Geller's appearance on
British television programs prompted a number of other people to come forth professing psychokinetic abilities. Taylor has even graded these people according to their alleged metal-bending abilities.

It has even been possible to devise a sort of scale in metal-bending ability: grade I (the lowest), where the claimant functions only to the accompaniment of Geller either on radio or television; grade II, where the power appears as a direct after-effect of a Geller performance; and grade III, where the claimant appears to function quite independently. (1975, p. 87).

According to Taylor, grade I has a preponderance of adults while grade II consists of both children and adults. The most powerful manifestations of psychokinetic ability are in grade III, "where the parties seem to be able to bend metal quite independently of Geller's appearances." (p. 90). The investigator concluded that grade III agents possibly provided independent authentication of legitimate psychokinetic ability. Taylor described the members of grade III as:

Our final or grade III category of people with strong metal-bending powers contains thirty-eight, of whom only one is a man, three are women and all the rest are under seventeen, fourteen being boys and twenty girls, and of them seven are severely retarded. The lowest age among those with evident spoon-bending powers is seven, though a case of a four-and-a-half-year-old girl who can bend spoons has been reported, but not yet fully authenticated. (pp. 90-1).

Before concluding his review of psychokinesis the investigator examined reports of research being undergone in the Eastern European Communist countries. One notable Russian subject, Nelya Mikhailova emerged. The investigator found that Mikhailova, a Russian peasant, provided a number of authenticated demonstrations under controlled laboratory conditions. Furthermore, one of these demonstrations was
It sometimes takes Mikhailova two to four hours to rev up her supernormal powers, Naumov mentioned in his commentary as we watched the silent film. Nelya held her long fingers parallel to the table about six inches above the compass and began to move her hands in a circular motion. The strain etched the dimples deep in her cheeks. Twenty minutes passed. Her pulse raced to 250 beats a minute. She moved her head from side to side gazing intently at the compass needle. Her hands moved as though she were conducting some unseen orchestra. And then, as if the atoms in the compass needle were tuned in to her, the needle shivered. Slowly it began to spin counterclockwise, turning like the second hand of a clock. Then the entire compass, plastic case, leather strap, and all, began to whirl. ...

In the film, Naumov scattered a whole boxful of matches on the table, a foot or so away from Nelya. He placed a small nonmagnetic metal cylinder and a matchbox near them. ...

Again Mikhailova circled her hands above the objects. She shook with the strain. Under her gaze the whole group of matches moved like a log-run on a fast-flowing river of energy. Nearby the metal cylinder also moved. Still interlaced like a raft, the matches went to the edge of the table and fell off one by one to the floor. Naumov put another batch of matches and a nonmagnetic metal case inside a larger plexiglass cube. The cube was to rule out drafts of air, threads, or wires. Mikhailova's hands moved a few inches from the plexiglass cover and the objects shuttled from side to side of the plastic container. Whatever this energy was, it could easily penetrate plexiglass. (1970, pp. 69-70).

The rather lengthy Mikhailova account concludes the discussion of psychokinesis. Additionally, the account concludes the review of the literature for the first question: Is extrasensory perception a legitimate area of academic and scientific study? While the investigator found a number of other manifestations of paranormal phenomena (i.e. precognition, clairvoyance, sightless vision, remote viewing, extrasensory influence of plants and animals by humans, suggestology,
psychic healing, artificial reincarnation, dowsing, psychophotography and mind-body control), the investigator concluded that sufficient data were present without a full discussion of all types of paranormal phenomena. On the other hand, the investigator does refer to a number of these phenomena in the subsequent internal development of this report as such phenomena become relevant to the explanation of certain hypotheses and theories. Additional data from other phenomena may take on added importance at that point concerning the proving, disproving and/or modifying of these hypotheses and theories.

IMPORTANCE

The investigator considered four factors in his determination of the overall importance of paranormal phenomena: (1) present importance of paranormal phenomena as an area of academic or scientific study; (2) present importance of paranormal phenomena as an area of communication studies; (3) future importance of paranormal phenomena as a means of communication; and (4) overall importance of the role of paranormal phenomena in the future.

1. The present importance of paranormal phenomena as an area of academic or scientific study is viewed as dubious by the American scientific community. Such research has been seen at best as controversial and at worst as suspect and questionable. In his review of the literature the investigator found that Leathers best delineated the general attitudes of the American scientific community. Leathers portrayed a hopeful picture for the acceptance of paranormal phenomena, but major obstacles to such acceptance remain:
Since Rhine began his pioneering laboratory experiments at Duke in the 1930s the scientific community has been providing critiques of parapsychological research. It is difficult to make safe generalizations about such critiques but certain conclusions seem justified: (1) a large part of the scientific community has been openly hostile to parapsychology and many scientists remain so; (2) while many scientists do not believe that we currently have conclusive proof for the existence of psychic behavior, well over a majority of those recently polled considered the investigation of ESP a legitimate scientific undertaking; (3) the careful efforts of people like Rhine, and Ullman and Krippner in the Dream Laboratory at Maimonides are leading to increased scientific acceptance of parapsychology - the Parapsychological Association was accepted as an affiliate member of the American Association for the Advancement of Science in December 1969. (p. 187).

Many American scientists remain critical of research on paranormal phenomena charging nonrepeatability, fraud, improper mathematical methods and improper interpretation of evidence. However, while many American scientists remain critical, their attitudes do not subtract from the overall importance of the subject area. Importance is well-established considering (1) international acceptance of paranormal research and (2) the number of scholarly journals treating this subject area. Such journals included among others: Electroencephalography and Clinical Neurophysiology, Journal of Parapsychology, International Journal of Psychoanalysis, Journal of the American Society for Psychical Research, American Journal of Psychotherapy, Psychoanalytic Review, The Journal of Nervous and Mental Diseases, Psychoanalytic Quarterly, The Psychiatric Quarterly, Philosophy, Digest of Neurology and Psychiatry, Procedures of Social Psychology Research, and Journal of Altered States of Consciousness.
2. The consideration of paranormal phenomena is presently an unimportant area of communication studies. While the examination of paranormal phenomena has become accepted as a legitimate although controversial area of study within communication, the study of such phenomena has not really taken on any degree of importance or significance. The investigator considered the basis for significant impact on two levels: (1) university and college curricular offerings, and (2) text and journal publications.

On the first level of curricular offerings Western Michigan University is an illustrative case to consider. To the investigator's knowledge Western offers three courses dealing with paranormal phenomena. Western's Communication Arts and Sciences Department offers Cognition and Emotion (671), the Science Area of the College of General Studies offers Science and Parascience (432), and the Social Science Area of the College of General Studies offers Science, Mysticism and Creative Mythology (424).

In short, these three course offerings represent a potpourri of paranormal and other unusual phenomena: some legitimate and some questionable as to their scientific legitimacy. The extent of such curricular offerings on paranormal phenomena at other American universities and colleges is similar at best. Some will offer one or two such courses; others offer no such courses at all. No American school offers paranormal phenomena as a departmental major area of study: none confer graduate degrees for the study of such phenomena.

On the second level of text and journal publications the investigator found a similar situation to that of the first level of curricular offerings. In short, the appearance of scholarly articles in com-
munication journals and coverage in communication texts of paranormal phenomena were spotty at best. While a great number of scholarly articles have appeared in a variety of noteworthy journals (see Bibliography), the appearance of such articles in communication journals seems to be limited to Brand's article (1975) and very few others. Similarly, with the appearance of a myriad of books on paranormal phenomena communication text coverage of the subject is apparently limited to Leathers (1976). Leathers devotes little more than a chapter to "the telepathic communication system." Unfortunately, while some excellent data are provided, much of his treatment consists of personal anecdotes and innuendoes. While Leathers' approach is admittedly a survey treatment of paranormal phenomena, his text coverage is additionally marked by incomplete research and consequently inaccurate analysis.

3. The investigator observed that paranormal phenomena could be an important means of communication in the future. Ostrander and Schroeder concluded "If even a part of the boom-time talk one hears about the opening of inner space is on target, it seems we are heading toward another genuine expansion in communication . . . ." (1974, p. 3). Mogchev (1976) suggests the future development of telepathy in the human community "... might have a great influence on science and life - on philosophy, pedagogy, criminology, and on helping us overcome physical defects in speech, hearing, and sight." (p. 85). Further communication uses could include telepathic messages over vast distances - into space, under the oceans, and under emergency conditions when more traditional means of communication are unavailable.
4. Finally, the investigator observed that paranormal phenomena could play an important role in the future. One such practical application of paranormal phenomena would be teaching eyeless or skin sight to the blind. Lozanov (1976) described his experiments with skin sight and blind children in an interview with Mogchev.

Interest in so-called eyeless sight or skin sight, which has been investigated primarily in the Soviet Union and also in the U.S., is fully justified.... I've made many experiments in my investigation of eyeless sight. Results proved to be really amazing. To insure that experiments were reliable and to exclude all possibility of chicanery, I worked with 60 blind children. Three of these children showed definite ability to distinguish with their skin both colors and geometric figures. In some experiments the surface to be read was covered with glass. Nevertheless, the children retained their ability to do eyeless sight. Another fact appeared - one of perhaps more practical importance. The remaining 57 children showed potential; they showed it would be possible for them to learn the ability. By training, these children may be able to distinguish colors and figures, and even learn to read.

No one yet knows how eyeless sight works, but it is plain that the ability exists and therefore its secret can be discovered by continued experimentation. (pp. 84-5).

Eyeless or skin sight is but one practical application of paranormal phenomena to be achieved in the future. The possibilities are endless. Remote viewing could provide the location of new and valuable mineral deposits. Price, the president of Princess Coal Company, is one such example. Price is employed to expand the company's coal resources, and he uses his remote viewing abilities to locate new coal deposits. Price was only one of many such examples discussed by Hammond (1975). Other possibilities include the use of psychic healing
and Kirlian photography to further man's knowledge of medicine, health and illness. Also, suggestology and artificial reincarnation could be used to increase both the quantity and the quality of man's educational system. Such practical applications suggest a rich and important role for paranormal phenomena and its use in the future.

NATURE OF PARANORMAL PHENOMENA

The investigator found in his review of the literature that there were nearly as many (indeed, if not as many) explanations and theories concerning the nature of paranormal phenomena as there were "authorities" on paranormal phenomena. The investigator observed in his research that to report on each of these theories and explanations would provide an interesting history of the authorities' attitudes, beliefs and conclusions. However, the investigator recognized that such an account would fail to provide the more important historical synthesis needed to account for and make sense of paranormal phenomena and their existence. Thus, the investigator delineated three general perspectives accounting for the existence and nature of paranormal phenomena: the mental perspective, the physical perspective and the alternative relativist perspective.

Mental Perspective

Proponents of the mental perspective contend paranormal phenomena are strictly mental (as opposed to physical) entities. For purposes of general and logical classification, the investigator included all strictly nonphysical explanations of paranormal phenomena (e.g. spiri-
tual explanations of paranormal phenomena). The investigator observed, at this point, that general classification of theories as nonphysical is legitimate since: (1) nonphysical phenomena could be further delineated as mental, spiritual, etc.; (2) however, such a delineation would be largely an artificial one, since there is no apparent scientific proof for mental or spiritual phenomena, per se (except as a circular definition of paranormal phenomena); and (3) even if one of the nonphysical explanations turned out to be correct, it would be just as probable that the various authorities subscribing to nonphysical explanations would be describing the same nonphysical entity - merely using different nomenclatures.

The investigator found that Freud (1925) subscribed to the mental explanation of paranormal phenomena. Freud considered telepathy to be a part of an archaic communication instinct and concluded telepathy occurs (1) when other forms of communication are frustrated, and (2) on the unconscious level and must therefore, be subject to the same processes of distortion and symbolic representation as any other material emanating from the unconscious.

Rhine (1935) adopted the mental perspective observing that the mind could function independently of the physical body. Rhine further observed that the mind perceives extra-sensorially and that there might be some other energy which is peculiar to the mind that is very different from material energies.

Price (1940), while subscribing to the mental perspective, differs with Rhine on the notion of a mental energy. Instead, Price explains paranormal phenomena in terms of field theory (i.e. the unconscious.
part of one mind interacts with that of another within a field of interac-
tion - "collective unconscious"). Specifically, Price suggests:
"Telepathy is more like infection than like knowledge." (p. 372).
Wagenfeld (1976) summarized Price's theory concisely:

(Price) Asserts the human mind has developed a repressive mechanism which suppresses the flow of telepathic impact in order to prevent chaos. (Price further) Asserts the unconscious is capable of perceiving everything no matter how remote in space, since the unconscious may be in contact with all things. (p. 15).

Thouless and Wiesner (1946) postulated a soul-like entity, "shin," to explain paranormal phenomena. According to Thouless and Wiesner, telepathy occurs when "shin" is being acted upon by a nervous system other than its own, and telepathy is like any other normal process of perception except telepathy involves cognitive relations with a nervous system which is outside the body that "shin" resides in. The explanation of Thouless and Wiesner is properly classified within the mental perspective, as the distinction between "mind" and "shin" is largely an artificial one. Indeed, Wagenfeld (p. 15) indicated that there was great similarity and that the main difference was the use of different terms.

Meerloo (1949) agreed with Freud on the characterization of telepathy as an archaic communication instinct. Meerloo believed such phenomena were likely to occur in cases of emergency where danger or death were threatened.

Tyrrell (1948) explained telepathy and other paranormal phenomena as a cognitive relationship between the "subliminal selves" of two individuals. Tyrrell specifically described the subliminal or extra-
conscious region of the self as containing:
...an enormous range of things high and low, transcendental and trivial. All are obliged to pass through the bottle-neck at the threshold if they are to reach the normal consciousness, and in doing so, all make use of the principle of meditation by means of constructs. (p. 331).

Jung (1902) and Ehrenwald (1954) explained paranormal phenomena in terms of levels of personality development and functioning, while Murphy (1945), another subscriber to the field theory approach, explained such phenomena in terms of interpersonal relationships. Murphy stated specifically that people act as an "interpersonal entity" when they possess "extraordinary capacity to make contact with phases of reality which transcends time and space.\" (p. 192). While not a full explication of all mental theories and hypotheses, the investigator concluded that the theories presented within the discussion of this perspective are representative and sufficient for a determination of the nature of paranormal phenomena.

Physical Perspective

Proponents of the physical perspective contend paranormal phenomena are strictly physical entities. The investigator found that most of these proponents were to be found outside the United States and usually were found in the Eastern European Communist countries. The investigator concluded that the distribution dichotomy was due to (1) most scientists of a materialist persuasion in the United States were either biased concerning the validity of paranormal phenomena or were not interested at any rate in conducting such research; (2) professional interest in paranormal phenomena in the United States is largely limited to psychologists and parapsychologists who retain an
obvious bias concerning the mental perspective; and (3) Communist political philosophy necessitates materialist explanations.

Berger (1960) was transitional in his view of the nature and functioning of paranormal phenomena. Berger asserted that (1) paranormal phenomena are based on the physiological changes in one's brain which (2) might be transformed into a type of psychic energy propagated through space and capable of reaching the brain of another. Berger's hypothesis is not a true materialist explanation since his hypothesis is based on a psychical and not a physical energy force.

The remainder of the theories considered within the physical perspective are true materialist explanations. Taylor (1975) suggested that paranormal phenomena function on a physical energy level. Taylor discarded explanations based on a nonphysical (i.e. spiritual and/or mental) energy field or level, since such explanations required blanket acceptance of (1) a nonphysical energy force and/or field, (2) occupying nonphysical space, and (3) which somehow interacted with the physical world. Taylor rejected this notion, as he observed no scientific proof for any of the three assumptions. Thus, Taylor concluded that paranormal phenomena must be explained in terms of a physical energy source.

Taylor then attempted to isolate the type of physical energy responsible for paranormal phenomena. Taylor initially observed that there were only five possible physical energy sources: radioactive, nuclear, gravitational, electromagnetic or a fifth new and unrevealed form of physical energy. Taylor immediately rejected the fifth possibility (as he previously rejected the notion of a nonphysical
energy source), since there was no scientific proof for the existence of such. Taylor remarked specifically "... there is no evidence at all at the microscopic level for such a fifth force. Nor is there any hint from science of any force beyond the well-established four ..." (1975, p. 188). Taylor rejected the possibilities based on the radioactive, nuclear or gravitational forces, since the "quantities of energy needed to activate the radiation corresponding to these forces (psychokinesis and telepathy) is far too high to be considered at all likely." (p. 187).

Taylor was left with only one possible source of physical force to explain the occurrence of paranormal phenomena: electromagnetic energy. Taylor is the first to admit the electromagnetic explanation of paranormal phenomena was neither new, nor had it proved adequate in the fifty years or so of its existence (p. 187). Indeed, Taylor went on to delineate the obstacles to the electromagnetic explanation:

Because the fluctuations brought about by muscular, heart or brain activity are of the order of thousandths of a volt only, the resulting variations of energy emission will be correspondingly rather small, far below the level needed to explain the bending of metal. Nor is it easy to understand how focusing of the radiated electromagnetic field is to be achieved if it has a frequency determined by that of the electrical activity of the body. This was seen to be below about 5,000 cycles per second, with a wavelength of at least 60 km. Focusing over distances much less than that would be very difficult to achieve.

The obstacles these theoretical considerations present are formidable, and no doubt there will be support for the conclusion that the electromagnetic hypothesis cannot be right. (pp. 187-8).

However, Taylor returned to defend the electromagnetic explanation, since as he went on to explain:
Some people, and especially scientists, may even go on to deduce that because there is no rational explanation for these phenomena, they simply cannot exist. I cannot take that easy way out because I have personally witnessed the Geller effect and telepathy under conditions in which fraud can be completely ruled out. But if electromagnetism be eliminated as the cause of the intentionality field, what is left? (p. 188).

Thus, Taylor went on to speculate on how the electromagnetic explanation could function even in light of the aforementioned obstacles.

As was previously mentioned, a number of Communist scientists from Eastern Europe support the materialist hypothesis. Ostrander and Schroeder (1970) report on a number of these varying materialist explanations: Sergeyev postulated an explanation of psychokinesis based on the presence and utilization by the agent of electrostatic and electromagnetic fields; Gurvitch postulated a biological explanation based on mitogenetic radiation (i.e. invisible radiation produced by all living cells).

Kogan offered an electromagnetic explanation based on information theory as opposed to the standard energy concept (e.g. If light is used as an energy, a flashbulb, to expose film in a camera, must be fairly close to the light source - if light is used for information, as with a buoy light, then it makes no difference whether there is a blinding flash or a tiny flicker miles away).

A few Soviet scientists postulated that the energies of the atom are the mechanism of paranormal phenomena; however, most Soviet scientists account for paranormal phenomena in terms of an unknown, pervasive force or field - similar to gravity perhaps.
Additional Soviet theories of paranormal phenomena were considered by the investigator; the investigator felt that these theories, although subscribing to the materialist perspective, were actually more representative of the relativist perspective.

Relativist Perspective

One might truly wonder, at this juncture, what the relativist perspective could possibly consist of in terms of explaining the nature and functioning of paranormal phenomena. It should be remembered that the mental perspective contained all nonphysical explanations of paranormal phenomena, while the physical perspective contained all physical explanations. What then is left? The answer quite simply is that the relativist perspective represents a different view of reality and the universe. The mental and physical perspectives seek to describe reality in terms of nonphysical entities and physical entities (i.e. the viewpoint of the world as represented by classical physics). Generally, the relativist perspective attempts no such differentiation or delineation. Illustrative are the notions of mind and body. The classical viewpoint (i.e. the mental and physical perspectives) would view mind and body as independent concepts and entities. Moreover, the entities would be described as representing different and opposing natures (i.e. the former being a nonphysical entity, and the latter being a physical entity). However, the relativist would postulate the unitary concept of mind-and-body representing one entity with different but complementary aspects or facets. The investigator found the difference in viewpoints to be analogous to the difference between
classical and modern quantum physics.

In reviewing the literature the investigator found a number of authorities adopting variations of the relativist perspective to explain the nature and functioning of paranormal phenomena. Representative were Koestler (1974), Pearce (1971, 1974), Buxby (1967) and LeShan (1974).

LeShan (1974) postulated that mediums, mystics and physicists (of a relativist persuasion) view reality in an altered way conceptually. LeShan characterized this conceptualization as: (1) emphasizing unity and interrelationship of entities, (2) regarding time concepts as illusory, and (3) accepting other ways of knowing and communicating in addition to the verbal and nonverbal systems.

Buxby (1967) did an empirical study supporting LeShan's claim. Buxby found people who view reality in the unitary manner produced higher ESP scores than people who view reality analytically.

Finally, there are a number of relativist explanations of paranormal phenomena postulated by Eastern European scientists. Kozyrev (1970, p. 160), one of the three or four leading astrophysicists in the Soviet Union hypothesized that paranormal phenomena could be explained in terms of a new energy: time. According to Ostrander and Schroeder (1974, p. 183):

Time is an energy and it is this energy that maintains the phenomenon of life in the world, in Dr. Kozyrev's view. Unlike many other time and energy theorists, Dr. Kozyrev can demonstrate his idea experimentally in his laboratory at Pulkov Observatory in Leningrad. These experiments are a continuing success.
Dr. Kozyrev's theories...move with great sweep and depth. The cosmology he is developing includes a place for such supposedly paranormal things as PK and even levitation. These and other manifestations of psi, he believes, will be explained with thorough understanding of the energy of Time, an energy that does not propagate, but which is immediately everywhere. (p. 188).

A number of American and British researchers were found to be in agreement with Kozyrev and have attempted to test his ideas in their experimentation. Experiments undertaken by England's Paraphysical Laboratory appear to support some of Kozyrev's findings.

A differing relativist explanation of psychokinetic behavior was suggested by Dubrov (Ostrander and Schroeder, 1974). Dubrov speculated that psychokinesis is a manifestation of biogravitation: a fluctuating force generated by human beings. Dubrov postulated - using Einstein's General Theory of Relativity as a foundation - that certain types of brain activity have the inherent ability to curve space to conform to the curvature of an object (Ostrander and Schroeder, 1974).

The investigator, believing that a fair representation of relativist explanations of paranormal phenomena had been presented, concluded his report on the review of the literature. The data provided in this review was reinterpreted by the investigator in establishing a structural framework to resolve the questions posed in the initial statement of the problem.
In his reinterpretation of the data the investigator undertook the following: (1) development of a formal statement of the conclusions concerning the major points of the study, and (2) delineation of recommendations for the future research and development of paranormal abilities and the possibilities of its technological application.

STATEMENT OF THE CONCLUSIONS

The investigator delineated three conclusions to resolve the questions posed by the study.

Conclusion 1: the consideration of paranormal phenomena is a legitimate area of academic and scientific study.

Conclusion 2: extrasensory communication is an important means of communication.

Conclusion 3: the nature and functioning of paranormal phenomena is best explained in terms of a relativist perspective postulating that such phenomena are entities with both physical and nonphysical characteristics, as opposed to the classical perspective of these phenomena as either physical entities or nonphysical entities.

The investigator utilized these three conclusions as focal points for the subsequent internal development of his reinterpretation of the data. The rationale for the third conclusion consists of a discussion of the nature and functioning of paranormal phenomena and the formulation of general perspectives classifying paranormal theories.
The investigator concluded that the consideration of paranormal phenomena is a legitimate area of academic and scientific study. It will be recalled from his review of the literature that the investigator focused primarily on two such phenomena (i.e. telepathy and psychokinesis) while considering the question of legitimacy or validity. A careful consideration of the data derived from his review of the literature compelled the investigator to conclude that his initial assumption was correct. The investigator based his conclusion on a two-part rationale.

A. Telepathy was found to be a valid phenomenon. The review of the literature produced literally thousands of independent experiments confirming the existence of telepathy. Wagenfeld's study (1976) was atypical in this regard. Wagenfeld attempted to determine whether there was any significant relationship between an empathic relationship and telepathic communication in the counselor-client dyads. Wagenfeld's results were negative, as she was unable to demonstrate the presence of any significant relationship between empathy and telepathy in the counselor-client dyads. Wagenfeld expressed hope believing that her results could be atypical in light of other research demonstrating that such a relationship (between empathy and telepathy) was possible. Wagenfeld's problem was not so much her results, as it was her experiment's methodology. Wagenfeld's results were negative, because she was unable to provide even one positive indication of telepathy in any of the target group dyads. The investigator observed specifically:
1. Wagenfeld chose a select target group of counseling students and their clients to test for both empathy and telepathy. In this fashion Wagenfeld hoped to demonstrate telepathic ability was directly related to counselor-client dyads where an empathic relationship was present. The investigator noted it would have been more useful (a) to have selected a much larger target group initially and test for telepathic ability, and then (b) from these subjects (i.e. the new and smaller target group demonstrating some telepathic ability) to construct dyads and later re-test these new dyads to determine if a significant relationship existed between the empathic relationship of the dyad and the effect on the subjects' telepathic ability.

2. Wagenfeld noted that physical and mental relaxation was an important variable to the psi conducive state (p. 19). Wagenfeld additionally noted low physical activity, meditative states, right hemisphere functioning and reduced sensory input as important and distinct variables. The investigator found these to be complementary variables: characteristic of one state. The point was, however, that Wagenfeld considered the variable(s) to be important. Consequently, before the experiment Wagenfeld gave them a set of instructions on how to achieve a state of relaxation. However, the investigator noted (a) that the test subjects had no prior opportunity to practice and familiarize themselves with these and/or other relaxation techniques, and (b) Wagenfeld did not even attempt to measure whether such a state of relaxation had ever been achieved. Such measurements could have been pursued through the electromyelographic technique, the electroencephalograph, and/or other instruments.
3. Finally, additional variables existed which could explain 'telepathic failures' as typified by the Wagenfeld study. Communication or information theory is rich with such variables. One such variable is the presence of noise in the communication channel. The level of noise in a communication channel affects the accuracy of the message. Ostrander and Schroeder (1970) documented Czechoslovakian research on the effect that noise had on telepathy:

An American scientist who works for a government agency recently reported that Czech scientists applied information theory to telepathy in an unusually successful way.

The Czechs thought about "noise," the amount of interference in a communication system. They decided to assume telepathy was a communication channel with a noise level so high that nearly all the message was drowned out. Information theory has techniques to overcome the noise problem, calculations that, among other things, tell how many repetitions of a single bit of information are necessary for proper reception. Applying these, the Czechs asked two people to try and telepathically send binary (two-symbol) coded messages back and forth, with a computer working out the necessary formulae of information theory.

The American scientist reports that the Czechs "demonstrated something like 98 percent reliability of pure telepathy communication. In other words something better than the reliability of field communication by field telephone or radio transmitters." (pp. 324-5).

The implications of the Czechoslovakian results were obvious. Additional variables were to be considered, tested and measured. The investigator suggests inclusion of (a) the communication skills, attitudes, cultures, cognitive ability and empathic ability of sender and receiver; (b) the level of noise, rate of speed, feedback and number of channels; and (c) redundancy and organization of the messages.
Finally, Hansel's objection (infra, p. 13) should be considered. Hansel charged that if fraud or anything else could be a possible alternative explanation for the result, then that experiment could not serve as conclusive proof for the existence of telepathy. Frank (1973) provided the best response to this standard objection:

> An impartial review of the enormous amount of supportive data, however, forces the conclusion that evidence for telepathy is at least as good as that for most phenomena accepted as true. (p. 131).

Having reviewed the supportive data, the contradictory data, explanations for, and criticisms of telepathy, the investigator concluded that telepathy was a legitimate paranormal phenomenon. The investigator further concluded that the proof of any one such phenomenon as legitimate was sufficient cause for the consideration of paranormal phenomena to be regarded as a legitimate area of academic and scientific study.

B. Psychokinesis was found to be a valid phenomenon. The review of the literature produced two well-known claims of psychokinetic ability (Geller and Mikhailova) along with a number of others, who have not achieved the same degree of recognition. While it is true that a number of serious objections have been brought against Geller (infra, pp. 16-7), the investigator observed that these objections were not equally applicable to other test subjects demonstrating psychokinetic abilities.

1. The case of Uri Geller appears to be a valid manifestation of psychokinetic and other paranormal abilities. Geller has shown positive indications of a number of such abilities (i.e. remote
viewing, telepathy, clairvoyance and psychophotography) before a variety of public and private audiences. Geller has been tested in laboratories by Mitchell, Puharich, Puthoff, Targ and others who concluded that Geller's abilities are genuine.

On the other hand, Geller is charged with being a psychic fraud whose only abilities are those of a very talented magician. However, as Leathers (1976, p. 178) has pointed out Randi and the rest of Geller's critics have been unable to duplicate a number of Geller's most impressive feats such as making the gold ring droop.

Geller's alleged talents have defied the human imagination: materializing objects, de-materializing objects, bending cutlery and nails, sending objects flying through the air, making images appear on unexposed film, starting broken watches, erasing tapes, and a host of others. Geller's explanation of the source of his talents was even more incredible: they are the gift of extraterrestrial beings! The investigator was forced to conclude with those who personally tested Geller that his abilities do appear to be genuine.

2. The case of Nelya Mikhailova appears to be a second valid manifestation of psychokinesis. Mikhailova has demonstrated an ability to move nonmagnetic and nonmetallic objects which has been tested under controlled laboratory conditions and even filmed. The reporting of Mikhailova's abilities is limited largely to Ostrander and Schroeder (1970). Leathers (1976, p. 184) has noted prior the problem of relying on the reports of Ostrander and Schroeder; these reports often lack the documentation necessary for proper scientific evaluation by other investigators. Thus, doubt often overshadows the credibility of these reports. However, Bartlett (1977) noted duplication of test results:
After watching a film of the great Russian sensitive Nina Kulagina (Mikhailova) moving objects by gestures only or with her eyes, Felicia Parise of the staff of the Maimonides Dream Laboratory in Brooklyn performed some of the same feats under controlled conditions. (p. 84).

The investigator concluded as did Bartlett that psychokinesis, then, is a valid paranormal phenomenon. Additionally, there were the reports of Taylor (1975) and others which provide independent authentication of psychokinesis.

Conclusion Two

The investigator concluded that extrasensory communication is an important means of communication. It will be recalled from his review of the literature that the investigator considered four factors in his examination of the overall importance of paranormal phenomena: (1) present importance of paranormal phenomena as an area of academic or scientific study; (2) present importance of paranormal phenomena as an area of communication studies; (3) future importance of paranormal phenomena as a means of communication; and (4) overall importance of the role of paranormal phenomena in the future.

The investigator stands upon his analysis of these four factors cited prior (infra, pp. 20-5). The investigator further reaffirms his stance that the absence of research and development of paranormal abilities in this country is due in large part to the unscientific attitude of the American community of scientists. The investigator admits that some inroads to scientific acceptance have been made here (the most notable being the acceptance of the Parapsychological Association as an affiliate member of the American Association for the
Advancement of Science in December 1969). Whatever progress has been made, however, has been slow and met with considerable setbacks. The latest of these setbacks has been the very recent formation of a committee of concerned American scientists and others (including Skinner, Sagan and Randi) who contend that (1) all paranormal phenomena are the products of psychic fraud and trickery, and (2) treatment of these phenomena as anything beyond fraud and trickery fosters dangerous and unscientific attitudes.

Conclusion Three

The investigator concluded that the nature and functioning of paranormal phenomena is best explained in terms of a relativist perspective postulating that such phenomena are entities with both physical and nonphysical characteristics, as opposed to the classical perspectives of these phenomena as either physical entities or nonphysical entities. It will be recalled from his review of the literature that the investigator found a great number of credible and incredible explanations of paranormal phenomena. To deal with the multitude of explanations the investigator formulated three general perspectives of categorization: mental, physical and relativist.

A. The mental perspective described paranormal phenomena as mental entities. Included within this perspective were all nonphysical explanations (e.g. spiritual explanations of paranormal phenomena). The investigator justified this composite classification on the basis that: nonphysical phenomena could be further delineated as mental, spiritual, etc., however (2) such a delineation would be a contrived one, since there is no apparent scientific proof for mental, spiritual or any
other type of nonphysical phenomena, *per se*; and (3) even if one of the nonphysical explanations turned out to be correct, it would be just as probable that the various authorities subscribing to nonphysical explanations would be describing the same nonphysical entity - merely using different nomenclatures.

The investigator determined that the explanations found within the parameters of the mental perspective were inadequate in explaining the nature and functioning of paranormal phenomena. The investigator based his conclusion on the fact that there was no scientific proof for any such nonphysical entities.

B. The physical perspective described paranormal phenomena as physical entities. Taylor (1975), subscribing to the physical perspective, noted five possible energy sources: radioactive, nuclear, gravitational, electromagnetic or a fifth new and previously unrevealed form of physical energy. Taylor rejected the fifth possibility as having no scientific proof for its existence. Taylor then rejected radioactive, nuclear and gravitational sources, since the quantities of energy needed to produce the phenomena were considered too high to be probable. Taylor was left with only one possible explanation: electromagnetic energy.

The investigator determined that the explanations found within the parameters of the physical perspective including Taylor's electromagnetic explanation were inadequate in explaining the nature and functioning of paranormal phenomena. The investigator felt obligated to additionally reject Taylor's electromagnetic theory for two reasons: (1) the objections to the electromagnetic explanation postulated by Taylor and others (e.g. Ostrander and Schroeder, 1976) were significant,
and (2) Taylor did not even attempt to extend his explanation beyond the phenomena of telepathy and metal-bending. While the investigator observed that electromagnetic energy might serve as a partial explanation of certain paranormal phenomena, he concluded there was no reason to believe it was a complete explanation for all paranormal phenomena.

C. The relativist perspective described paranormal phenomena as entities with both physical and nonphysical characteristics. The relativist perspective, then, represents a different view of reality and the universe; it postulates the unitary concept of mind-and-body representing one entity with different but complementary aspects or facets. The investigator found the difference between the classical perspectives (i.e. mental and physical explanations) and the relativist perspective to be analogous to the difference between classical and modern quantum physics.

While reviewing the literature the investigator found a number of relativist explanations of paranormal phenomena which made a great deal more sense than the mental and physical explanations offered previously. Representative were LeShan (1974), Koestler (1974), Pearce (1971, 1974) and Buxby (1967). There were, of course, problems with these theories. Relativist explanations at times would contradict each other, as the mental and physical explanations had done previously. Also, the theories were not always applicable to paranormal phenomena beyond those chosen by the author.

LeShan was an illustrative case in point. LeShan hypothesized a type of sharing or interpersonal relationship occurring as a direct
result of an altered state of consciousness. LeShan applied his explanation to the phenomena of telepathy and psychic healing. The investigator observed that both phenomena dealt with relationships between two living and thinking beings. The investigator failed to see, however, how LeShan's explanation could be applied to psychokinesis, for example. Psychokinesis represents a relationship between an animate being and an inanimate object. The investigator concluded that LeShan's explanation was probably an oversimplification and consequently inadequate.

The investigator concluded that the relativist perspective offered the best explanation of paranormal phenomena. The investigator further concluded that any accurate explanation of paranormal phenomena would probably be based on a combination of energies and relationships.

RECOMMENDATIONS

First, the investigator recommends that America seriously pursue the research and development of paranormal abilities, since, such research and development will continue in other countries. The investigator freely speculates that such research will lead to the eventual development of (1) training techniques and (2) a technology built around such natural phenomena and their powering energy sources. The investigator firmly believes that America's reluctance or refusal to participate in such research and development will be its loss, and that such a loss will be of tremendous importance and consequence.

Second, the investigator suggests that the key to successful future experiments in maximizing paranormal phenomena occurrences is
inducing a relaxed state. Current methodology attempts to get subjects to relax, and then tests for paranormal abilities. Such a methodology is met with a number of problems: (1) uncertainty as to whether the subject is actually relaxed and sufficiently relaxed, (2) absence of the monitoring of subjects, (3) no physiological means of training the subjects, (4) no means of reinforcing subjects' paranormal abilities, and (5) currently, practice does not allow for informing (and, thus, conditioning) the subjects as to the accuracy of his/her test trials (i.e. the calls which were successes and the calls which were failures). The investigator believes that use of biofeedback apparatus may prove useful in the attempt to monitor paranormal activity and/or altered states of consciousness. While the investigator realizes past attempts to demonstrate physical correlates have met with failure, the investigator firmly believes that continued future attempts at monitoring may at least allow some individuals to learn how to maximize their paranormal abilities.

Finally, the investigator recommends that American universities and colleges - and especially the communication discipline - demonstrate greater interest in developing a greater number of course offerings in their curricula, greater emphasis in research projects, graduate programs and undergraduate majors in the study of paranormal phenomena.
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