

Pagenstecher's Contribution to Parapsychology

A Study from the Psychical Research Foundation, Inc.

W. G. ROLL

INTRODUCTION

Now and then a discovery in parapsychology is made in some part of the world which never previously distinguished itself in the field. This happened a few years ago when the Czechoslovakian investigator, Milan Ryzl, announced the startling ESP results of his subject, Pavel Stepanek; it happened some forty years earlier when Gustav Pagenstecher, a German physician practicing in Mexico, reported on the ESP feats of a woman patient, Señora Maria Reyes de Z. (Mrs. Zierold).

The scientific world probably would not have heard about either of these exploits had they not been authenticated by an experienced psychical researcher who personally undertook an investigation. In the Czechoslovakian work, the visiting scientist was J. G. Pratt. In the Mexican case, he was Walter Franklin Prince. The resemblance appears to end there: one case consisted of statistically evaluated card-guessing trials, while the other involved "psychometry" tests, where the subject had visions seemingly related to the past histories of objects she held in her hands. When we look behind the different experimental settings, we find that two important features of Ryzl's experiments were anticipated by Pagenstecher. They concern the nature of ESP stimuli and a method for training subjects to respond to them. I shall return to these topics later. First a few words about Prince and Pagenstecher.

Prince was in his late fifties when he visited Mexico in 1921. He was a minister by education and it was his pastoral work that led him to parapsychology. The occasion was his discovery, in 1910, of a case of multiple personality in a young woman parishioner, Doris Fischer. His study of the "Doris Case" resulted in his acquaintance with James H. Hyslop, founder and head of the American Society for Psychical Research. When Hyslop died in 1920, Prince became Research Officer of the A.S.P.R. and then of the Boston Society for Psychic Research. He remained America's most outstanding figure in psychical research until his death in 1934.

Prince had two traits essential for an investigator in this field: he was open-minded about the possible range of facts in nature

and hard-headed in their appraisal. Both traits are conspicuous in his accounts of the experiments in Mexico.

Pagenstecher was born in Germany in 1855 and received his medical degree at the University of Leipzig. Shortly afterwards he left for Mexico, which was his home until he died in 1942. It was no rash youngster, therefore, who threw himself into the uncertain area of psychical research, but a man in his sixties and a respected member of the medical profession. Pagenstecher said he had been "a materialist for forty years" when he had his first encounter with the paranormal, but he cannot have been a conventional one or he surely would have ignored it. That he also was not a conventional physician is indicated by his use of hypnotic therapy, hardly an orthodox medical procedure at that time. It was his hypnotic treatment of Mrs. Zierold for insomnia that led to the discovery of her remarkable psychical gifts.

The main sources of information about the experiments with Mrs. Zierold are Pagenstecher's monograph, "Past Events Seer-ship: A Study in Psychometry," which came out as a volume of the A.S.P.R. *Proceedings* (11), Prince's Foreword to it, and two papers by him, one in the *Proceedings* (12) and the other in the *Journal* (13), both entitled "Psychometric Experiments with Señora Maria Reyes de Z." In these, Prince discussed the tests in which he personally took part. An article by Pagenstecher (10) which appeared in the *Journal* in 1920, concerning the tests which were carried out in collaboration with a medical commission in Mexico, was incorporated into his monograph (11).

The experiments were concerned with a form of ESP called "psychometry," which means, literally, "soul measurement." Since the word also refers to psychological measurements and tests, the phrase "token object test" is now often substituted to avoid confusion. In the usual kind of token object experiment, the subject tries to obtain ESP impressions about events, as a rule in the past, by means of objects which were associated with the events. The tests resemble psychological word association tests, except that the stimulus is a material object rather than a word; and except that the investigator is interested in the object's parapsychological associations rather than the psychological ones it arouses in the subject's mind. Pagenstecher applied the term "associated objects" to the objects used in such tests. We might refer to this kind of ESP as "object association" phenomena, a more descriptive phrase, perhaps, than either "psychometry" or "token object" phenomena.

Pagenstecher was not the first to become interested in object association. A physiologist, Joseph R. Buchanan, preceded him by nearly eighty years and, in 1842, coined the term "psychometry." Pagenstecher refers to his work and to that of his follower, the

geologist William Denton. Their treatment of the phenomena was more poetic than scientific, as the titles of their books indicate: Buchanan's *Psychometry: The Dawn of a New Civilization* (1893) and Denton's *The Soul of Things* (1888). Neither of them was taken seriously by the scientific community, not even by its fringe of psychical researchers. This is not to say that psychometry was entirely overlooked. F. W. H. Myers (8) and Oliver Lodge (6) suggested that past events left "traces" on objects in their neighborhood and that these traces can be detected by gifted ESP subjects. Though many mediums and sensitives use such objects, parapsychologists as a rule have tended to restrict themselves to acknowledging the existence and possible importance of the objects without trying to account for their function. S. G. Soal (24), for instance, concluded from his work with the sensitive Blanche Cooper that if there is ESP, there is a "physical link," but he did not venture an explanation. Pagenstecher, as we shall see, was less reticent.

THE EXPERIMENTAL CONDITIONS

The bulk of Pagenstecher's monograph (11) is taken up with a description of forty miscellaneous experiments conducted between October 1, 1919, and June 15, 1920. The last of these is numbered 65, so presumably another twenty-five tests were conducted during that period but not reported. In addition, fifteen (unnumbered) experiments done in January, 1920, are discussed. Eleven of these were conducted in collaboration with other Mexican physicians. Finally, two experiments were done on August 24, 1920, and March 30, 1921. Prince (12) describes an additional twenty-six experiments in which he participated between March 29 and April 14, 1921, one of which is also covered in Pagenstecher's report. Altogether, eighty-two experiments are discussed in these two papers (11, 12).

In 1920, many of the procedures of testing and analysis which today are applied as a matter of course had not been developed. Parapsychological studies were concerned more with the question of fraud than with experimental procedure. A good investigator was well versed in the skills of the magician and detective rather than in the methods of experimental science. Prince was well known for his exposures of mediums *in flagrante delicto* and the main question in his mind when he arrived in Mexico was whether the

¹ The numbering of the experiments is somewhat erratic. In one case, three experiments with one object were counted as a single experiment (No. 26); in other cases, four experiments (Nos. 17, 19, 23) and two experiments (Nos. 39 and 40) with the same object were numbered separately.

claims were fraudulent. I think we can agree that they were not. But we should not expect either Prince's or Pagenstecher's tests decisively to rule out all other possible normal explanations.

In any satisfactory modern ESP experiment, the experimenter and others who are present in the room where the subject is tested are ignorant of the target. In this way the possibility is avoided that they might unconsciously transmit cues to the subject. In many tests with Mrs. Zierold, Pagenstecher, Prince, or others who were present, knew what the correct response was. While it is doubtful that they gave her any cues, these experiments cannot be bracketed with research conducted under conditions that definitely rule out this possibility. Similarly, in token object tests precautions must be taken to prevent the subject from inferring any relevant information from the object's physical characteristics. For instance, if the subject is handed a sea shell, he is certain to score some "hits" if he speaks about the ocean and marine life. It is now also customary to have a predetermined number of experiments and analysis of all the findings.

It is emphasized both by Pagenstecher and Prince that Mrs. Zierold did not examine the experimental object either by sight or by touch. Once her fingers came in contact with it, she did not move them for the duration of the test. In fact, she entered a cataleptic trance as soon as she received the object, which lasted until the end of the session.

In several instances, the particular events described by Mrs. Zierold, and later found to have been associated with the object, could not have been rationally inferred even if she had examined it. For instance, the fact that a sealed letter had been written by a tall man, thirty-five to forty years old, bearded, with a scar over his right eyebrow, and who was about to be shipwrecked, could not have been inferred from the letter. This was the famed Ramon experiment (12, pp. 216-240) conducted on March 30, 1921, which was witnessed by Prince and Dr. L. S. Viramontes, Secretary of the Medical Society "Pedro Escobedo." They and the other persons present were ignorant of the writer and the contents of the letter.

One series of experiments closely approached present-day scientific standards. These were the tests done on January 11, 1920, with Viramontes as co-experimenter. Four similar pumice stones with different past histories were presented to Mrs. Zierold in random order by Viramontes without Pagenstecher knowing which stone was being used at any one time. In all instances, Mrs. Zierold's statements were appropriate. I shall discuss these experiments later. This series was followed by a similar one conducted under the supervision of the President of the Medical Society, Dr. Luis Iruesto, the Treasurer, Dr. Rafael Lopez, and Dr. Viramontes. It

was the purpose of these tests to obtain as exact a replication as possible of the earlier findings; consequently the same pumice stones were used as had been employed in the tests with Viramontes (in addition to three control stones). Mrs. Zierold gave essentially the same responses as before. Unfortunately, in the commendable search for a repeatable experiment, the experimenters overlooked the possibility that Mrs. Zierold could have recognized the stones by touch and repeated her earlier statements about them. The stones were cut into similar shapes, but it is difficult to rule out the possibility of slight differences.

It would be a mistake to judge the tests with Mrs. Zierold on the basis of how conclusively they demonstrate ESP. Today, the greatest need is not for further evidence of the existence of ESP. Although we have advanced far in providing sound methods of testing, our progress in understanding ESP has been slow and the question how ESP operates is as pressing now as it was in the days of Pagenstecher and Prince. I believe that their experiments with Mrs. Zierold may give valuable leads about the nature of ESP, though they cannot be cited as proof of it. In particular, the tests make some interesting points about two topics, namely, the role of hypnosis in ESP and the nature of the ESP stimulus.

HYPNOSIS AND ESP

Mrs. Zierold's ESP abilities were discovered by Pagenstecher in the course of treating her for insomnia. She suffered severely from this as a result of a stomach ulcer and as an aftereffect of an operation. It was when Pagenstecher failed to relieve the insomnia with drugs that he resorted to hypnosis.

During one of the early sessions, in September, 1918, Mrs. Zierold was disturbed by the impression that her fifteen-year-old daughter was eavesdropping outside the room. When Pagenstecher checked, he found this was true. Until that time, Mrs. Zierold was unaware of possessing any psychical abilities. Her ESP developed gradually during the course of an hypnotic training program which lasted for several weeks and, with respect to some of her abilities, for several months. The first object association test was done more than a year after the initial hypnosis session.

There is an interesting account, written by Mrs. Zierold herself, about the development of her gifts. It appears that Pagenstecher used an hypnotic training procedure designed to develop her mental images. At first, he instructed her to visualize himself in various parts of the room, out of her sight. Mrs. Zierold writes: "I began to see, upon order, first a kind of shadow corresponding to the

body of the doctor; later on I was able to see him with absolute clearness, whether I was blindfolded or not, and whether he was standing in front of me or at my back, or even behind the door, as it happened several times" (11, p. 110). Pagenstecher does not make any claims for this as a general procedure for developing ESP. However, it bears a striking resemblance to Milan Ryzl's hypnotic training technique which, he claims, has been successful with many subjects. Ryzl describes it as follows:

We ask the subject to distinguish simple objects of set shapes—key, hand, scissors, hammer, etc., which we put in front of him on a tray in a position that the subject could see them if he opened his eyes. We invite the subject to "have a look" at the object without opening his eyes. . . . Usually there is only gradual progress. The subject first "sees" the object indistinctly, blurred, as if in a fog. At this stage the experimenter's suggestive influence may be of considerable help, an order or an assurance that the picture must gradually get more distinct (18, p. 241).

Ryzl used this method with 226 subjects, 13 of whom (6 per cent) achieved a high rate of ESP success while another 14 were "relatively good" (18, p. 235).

In the case of both Pagenstecher's and Ryzl's subjects, there was a gradual development of clarity in the mental images. Mrs. Zierold first saw a "kind of shadow," while to Ryzl's subjects the target appeared "as if in a fog." Gradually the images became more distinct. There has been much speculation whether Ryzl's method has general validity or whether his success is due to personal factors. The fact that a similar procedure was used by another investigator argues in favor of this form of hypnotic training.

After the initial training period, the procedures followed by Pagenstecher and Ryzl differ markedly. In Ryzl's experiments with Stepanek (20, 21) the responses were limited to two, namely, calls of "white" or "green," corresponding to the colors of the target cards. In Pagenstecher's experiments, on the other hand, anything Mrs. Zierold said regarding the experimental object counted as a response. The target range was limited only by the past history of the object. And there was a further difference: Mrs. Zierold continued to operate in a trance state and did not, as far as we know, show evidence of ESP unless hypnotized. Stepanek, on the other hand, is not in trance when tested either by Ryzl or by other investigators visiting Prague. (It is conceivable that he automatically enters an hypnotic state when he begins guessing but, as far as I know, there is no evidence for this.) Since this difference between the psychological states of the two subjects may tell us something

about the relationship between hypnosis and ESP, it may be worth discussing further.

From the beginning of research in parapsychology, many investigators have been of the opinion that hypnosis, sleep, or other forms of dissociation are important means of improving ESP. In the experience of others, however, hypnosis and dissociated states have been ineffective. In her survey of the older experimental material, Rhea White (29) concluded that the "first general requirement is to achieve a state of complete relaxation." In the area of non-experimental ESP experiences, L. E. Rhine (15) observed that "realistic" cases, in which there was the closest correspondence with the events, usually occurred in dreams rather than in waking states. (On the other hand, she did not find any more ESP cases in dreams than in waking states, perhaps because most dreams are forgotten.) Gardner Murphy (7) suggests that dissociated states are helpful to ESP because they remove the subject from "the conscious system of ideas." On the other hand, J. B. Rhine (14) has not found hypnosis to be an aid to ESP. Neither his high-scoring subjects nor those of S. G. Soal (25) were hypnotized. Hoping to duplicate Ryzl's findings, John Beloff and Ian Mandleberg (1) trained and tested twenty subjects under hypnosis without effect. (However, Ryzl (18) claims high scores in only six per cent of his trained subjects. Beloff and Mandleberg could therefore only have expected striking results from one of their subjects.) Also in the tests by J. J. Grela (3), there was no evidence that hypnosis was effective in improving ESP. Although the total score was highest in the sessions in which positive hypnotic suggestions were given, only five of the eleven subjects scored higher in the hypnosis tests than in the waking tests, five scored lower, and one the same.

A clue to this apparent disagreement is found when we examine the responses made by the subjects in the two situations. The investigations in which hypnosis or some other form of dissociation were found to be advantageous were, as a rule, free response tests, while the experiments in which hypnosis was ineffective were card trials or other tests with restricted responses. There are exceptions to this, but the rule seems to be that dissociation is likely to improve results in free response tests but not in card tests. Since the response is a function of the ESP target, the choice of target, it appears, should determine whether the subject should be in a dissociated state such as hypnosis or sleep. One of the reasons for the successful outcome of the experiments by Montague Ullman, Stanley Krippner, and Sol Feldstein (27) might well be that they used a free response method with dreaming subjects.

The reason that free ESP responses are aided by dissociated states and restricted responses are not, can be understood, in my

opinion, by a study of the ESP response itself. As I have tried to show elsewhere (16), the response produced by an ESP percipient consists of *his own* memory traces, activated by the ESP stimulus. An example may help to illustrate this. In an informal session with a medium, Herbert Beyer, involving Dr. O. Lee Trick and others, Mr. Beyer asked if the name "Othol" meant anything. Dr. Trick replied that his first name is "Otho," but that he does not use this name except for professional purposes and that he believed that none of his friends in Durham knew what the initial "O" in his name stood for. When the medium was asked how this name came to mind, he replied that he had an image of a childhood friend named Othol Johnson and that this made him expect that this name was relevant.

René Warcollier, the French parapsychologist, described the ESP process in this way:

... the images which appear to the mind of the percipient under the form of hallucinations, dreams, or more or less well-formed images, spring exclusively from *his own mind*, from his own conscious or subconscious memory. *There is no carrying of the visual impression from the agent to the percipient*, any more than there is actual carrying of a letter of the alphabet from the sending apparatus of a telegraph office to the receiving office. The transmission of the message consists in making the same letter *appear*, but it already *exists* at the receiving apparatus, along with all the others, before the transmission takes place (28, p. 133).

If the ESP response is a form of remembering, it is easy to understand why a dissociated state might help subjects such as Mrs. Zierold and those to whom Rhea White (29) refers. As a rule, it is only when the distractions and demands of everyday life are shut off that the wide range of memory traces which would be needed to respond to a wide range of ESP stimuli easily come to mind. On the other hand, a person need not be in a dissociated state to recall, say, images of "green" and "white" or of the five ESP symbols. Consequently, Stepanek and other card-calling subjects do not have to be hypnotized. These common-sense observations about the effect of hypnosis on remembering are supported by experimental observations. For example, R. W. White, G. F. Fox, and W. W. Harris (30) and B. G. Rosenthal (17) found no improvement under hypnosis of recall of lists of nonsense syllables, but a significant gain for meaningful material. The apparent conflict between those who advocate hypnosis and other forms of dissociation as aids to ESP and those who find them ineffective seems to be resolved if we regard ESP responses as memory responses.

A few words might help to relate these observations to the hypnotic training techniques of Pagenstecher and Ryzl. First of all, it is evident that hypnotic training is not a means whereby everyone can become a star ESP subject. Mrs. Zierold showed evidence of ESP during an early hypnosis session before Pagenstecher's training began, and only a small proportion of Ryzl's trainees developed a stable ESP performance. The contribution of these investigators appears to be the discovery of a method to teach their subjects (a) to transform indistinct and fleeting memory images into clear mental images, (b) to identify images brought into awareness by ordinary internal or external stimuli, presumably by recognizing these stimuli, and (c) to ignore such "normal" images, leaving a residue of "paranormal" ones. In addition, in the limited case of free response tests hypnosis or self-induced forms of dissociation are likely to provide a means for gifted subjects to maintain a high level of ESP performance.²

THE STIMULUS

The psychometric process begins, according to Pagenstecher, when ordinary physical events produce "molecular movements" or "vibrations" of light, sound, etc., which usually result in sensory perception. When these vibrations reach physical objects in the neighborhood of the events, the vibrations are not dispersed and do not disappear, but are "stored" in the objects. At a later time, these stored vibrations may affect the brain of an ESP subject and cause him to have a mental image of the events in question. Pagenstecher refers to the accumulation of stored vibrations in the universe as a "divine or cosmic memory record" (11, p. 104). Raynor Johnson, the Australian physicist and author, similarly says, in a discussion of psychometry, that "rocks cannot remember—but they may hold a memory... which the mind of a man in favorable circumstances can cognize" (5). The discovery that the past is retained not only by animate systems but by inanimate systems as well, would add to the growing list of properties in the living which are also found in the world of inanimate matter.

But before we can begin to take such speculations seriously, we need to know if Pagenstecher's results can be explained along more conventional lines. If they cannot, we should need to know if the

² Hypnosis has other uses for ESP. For instance, alternating hypnotic and waking card trials has resulted in the "preferential effect" in which the condition preferred by the subject produces a positive score and the other a negative one. Hypnosis may also be a help for subjects who otherwise would find the experimental conditions unpleasant or distracting.

findings have been repeated by others. Most important, the new concept should improve our ability to control or predict ESP.

When Prince became convinced that the results were not to be explained in terms of cheating or some other normal explanation, he turned to the telepathic hypothesis, e.g., to the theory that Mrs. Zierold responded to information about the experimental object in the minds of the experimenters rather than to any unknown properties inherent in the object itself. Prince gave up the telepathic hypothesis when he found that it made no difference to Mrs. Zierold what information, if any, the experimenters had about the object. Prince was co-experimenter on two occasions when Mrs. Zierold's statements about the experimental object were in conflict with his own opinions and when he thought she had failed in the test. In both cases it turned out that it was he and not Mrs. Zierold who was mistaken. He concluded from this that she was not reading his mind. In addition, there were cases where no one present had the information that Mrs. Zierold produced, such as the Ramon case referred to above.

It would be going too far to say that these experiments conclusively excluded telepathy since there was always some person somewhere who would eventually verify Mrs. Zierold's statements and whose mind she could therefore have picked at the time of the test. However, in the case of telepathy there is usually a pre-established link between the agent and the percipient; for instance, they are personally acquainted, or the connection is through a token object. If there is evidence of ESP without such a relationship, then I think we may agree with Pagenstecher and Prince that we are probably not dealing with telepathy.

Prince does not discuss the possibility that clairvoyance—ESP of objective, physical events—might explain the findings. It is evident, however, that it could not since Mrs. Zierold did not describe contemporary events, but events that occurred in the neighborhood of the object in the past.

G. N. M. Tyrrell (26) referred to object association as an "almost untouched" area of parapsychology which might have important implications for the understanding of ESP. The only person other than Pagenstecher to make a significant contribution to this area was the French investigator, Eugene Osty (9), a contemporary of his and also a physician. The phenomenon is now again attracting the attention of parapsychologists. An experiment by Ryzl and Pratt (20) is particularly interesting because the effect was not sought, but emerged unexpectedly. In this series, in addition to Stepanek's usual high rate of scoring, it was found that the hits were not uniformly or randomly dispersed over the target cards, but were concentrated on certain ones, though these appeared to

be physically indistinguishable from the rest. Among the favored cards, two were found which had slightly different past histories from the other cards. These two cards corresponded to the first two numbers on the code sheet the experimenters used for marking the envelopes in which the cards were placed and for that reason may have been more vividly impressed on their minds than the others. The authors remarked in a later study that "our results seem to us to raise anew the question whether the so-called token object, long associated with mediumistic practices, may play more than a purely motivational or suggestive role. . . ." (21, p. 240). In other experiments with the same subject, it appeared to Ryzl (19) that Stepanek's own guess about a card left a "trace" on it to which he responded in later trials by repeating his first guess, regardless of what the actual target was.

The best indication that a scientist has made a new discovery is that it increases his ability to predict and control. In the following pages I shall consider Pagenstecher's findings from this point of view. I shall not discuss his theory of "stored vibrations." His findings about the "associated object" can be stated in terms of what we might call the "object association theory of ESP" without going into the possible physical grounds for this theory.

THE OBJECT ASSOCIATION THEORY OF ESP

At the beginning of this paper I pointed out that object association experiments are similar to word association experiments. In some word association tests, the purpose is to discover the connections between thoughts and images in the subject's mind. For instance, the stimulus word "table" might elicit the response "chair," thereby showing a relation in the subject's mind between table and chair. Pagenstecher's experiments suggest that material objects are associated with each other in ways analogous to the association of ideas and that similar "laws" govern the two kinds of association.

The psychological laws of association are divided into the "primary" and "secondary" laws of association, the former being the laws of contiguity and similarity and the latter the laws of primacy, recency, frequency, and vividness. Of the primary laws, I shall discuss only the law of contiguity.

The Primary Laws of Association

The law of contiguity: The law of contiguity states that when two experiences have occurred together in time or place, the occurrence of one of them in perception or thought tends to bring

the other to mind. "The burnt child dreads the fire," as the proverb has it. The phenomenon of object association suggests a parapsychological equivalent to this law. According to what we might call the "parapsychological law of contiguity," two objects or events that have occurred together in time or place remain parapsychologically associated though they may later be separated, so that if one of the objects is presented to a person, the other comes to his mind. Pagenstecher's experiments all conform to this law. For instance, in Experiment 62, conducted on May 13, 1920 (11, pp. 20-22), the experimental object was a string on which the identification plate belonging to a German ex-sergeant had been attached. It had been worn by him during World War I. When Mrs. Zierold held the string, she had a vision of a fire bomb exploding among a group of soldiers. The sergeant recognized this event as the one that had impressed him most during the war. This example is typical. As in all the other of Pagenstecher's experiments, the response concerned events that had taken place in the immediate vicinity of the experimental object.

The Secondary Laws of Association

The objects used in Pagenstecher's experiments had many events associated with them in addition to those described by Mrs. Zierold. For instance, in the experiment with the identification string, the question arises why she described the bomb explosion rather than something else. Similarly, in the case of the association of ideas, one word or image often has several others connected with it. The word "table" may be associated with "chair," "lamp," "typewriter," "ashtray," and the names of other objects which have been observed in the proximity of tables. If the investigator is interested in which of these related words are likely to come to mind first, he will refer to the secondary laws of association: the laws of primacy, recency, frequency, and vividness. Thus, if the subject in the past has more frequently experienced the combination "table-chair" than the combination "table-lamp," he is more likely to say chair than lamp in response to the stimulus word table, assuming that other factors, such as recency, are about the same for the two combinations.

In object association, the question which of the events associated with the experimental object are likely to be cognized by an ESP subject is answered by the parapsychological equivalents of the secondary laws of association. We may express these as follows: According to the law of primacy, all other things being equal, the first events in the history of an object are more likely to be cognized by ESP than others. The law of recency states that, all other things

being equal, recent events in the history of an object are more likely to be cognized by ESP than others. The law of frequency says that, all other things being equal, frequent events in the history of an object are more likely to be cognized by ESP than others. And finally, according to the law of vividness, all other things being equal, events that were emotionally vivid or intense to a person connected with the history of an object are more likely to be cognized by ESP than others.

In Pagenstecher's experiments, sixty-two different objects were used.³ These include the objects from the tests with Prince and Viramontes, but not from the tests done with the medical commission since the same objects were employed in them as had been used in earlier trials. If we examine Mrs. Zierold's responses, in many cases they appear to follow the secondary laws of association, particularly the laws of primacy and vividness.

In Table 1, I have entered Mrs. Zierold's responses according to whether the events she described were primary, vivid, etc. To some extent the decision where to place an item was subjective.

³ Thirty-seven different objects were used in the tests Pagenstecher conducted on his own, four in the experiments with Viramontes, and twenty-one in the tests where Prince participated, making a total of sixty-two. It is clear from Pagenstecher's monograph (11) which of his forty experiments involved the same objects. In the case of the four objects used by Viramontes, it is obvious that none was used more than once. With regard to the experiments in which Prince participated (12), the situation is confusing since one object had been used earlier by Pagenstecher and is reported in his monograph (11), two had been used by Pagenstecher but are not reported by him, and three were used more than once in Prince's experiments but in different parts of the series.

An artificial flower which Pagenstecher had used in a previous experiment (11, pp. 19-20) was the "satin bow" in a test with Prince (12, pp. 255 ff.); this has been counted with Pagenstecher's objects, not with Prince's. There were two objects used by Prince which reportedly had been employed previously by Pagenstecher, namely, an ivory paper cutter (12, pp. 213-215) and one of two letters which had been written by Pagenstecher himself after a shipwreck (12, pp. 294-296). Pagenstecher does not refer to these experiments in his monograph (11), but he told Prince that Mrs. Zierold's response in the later tests to each of these objects was similar to the response she had made earlier. Since the responses to these two objects are only to be found in Prince's records, I have counted them with Prince's objects. Finally, in three instances the same object was used twice in different parts of Prince's experiments, namely, a piece of marble (12, pp. 208 ff.), a pumice stone (12, pp. 257 ff.), and a shirt (12, pp. 282 ff.). The pumice stone had been cut the second time it was used, and a different (bloodstained) part of the shirt was held by Mrs. Zierold the second time this was given to her. On the first occasion she apparently received impressions from a cloth mill (primary events) and the second time from an assault on the man who had worn the shirt (vivid events). I counted the shirt as one object giving rise to two different responses. The pumice stone and the marble were also counted once. An experiment with a different specimen cut from the same shirt (12, pp. 281-282) was counted as a different object.

The frequent use of the same object may give the impression that the experiments were more informal and haphazard than was actually the case. The repeated use of stimulus objects was usually intended to demonstrate repetitions in the response and thereby to provide repeatable parapsychological effects.

Table 1

CLASSIFICATION OF THE SUBJECT'S RESPONSES ACCORDING
TO THE TYPE OF EVENT DESCRIBED

One-Response Sessions					Total
Primary	Recent	Frequent	Vivid*	Unclassifiable	
21 40%	0 0%	6 11%	11 21%	15 28%	53
Two-Response Sessions					Total
Primary & Recent	Primary & Vivid	Recent & Frequent			
2 22%	3 33%	4 44%		9	
Total, all sessions:					62

* One of the "vivid" events was also "frequent."

However, if the response did not clearly belong in one of these categories, it was listed as "unclassifiable." The table is divided into two sections, one referring to the objects which stimulated a single impression or one continuous account, referred to as "one-response sessions," and the other referring to those which gave rise to two unrelated responses, the "two-response sessions."

Primary events: In twenty-one of the fifty-three one-response sessions, or forty per cent, Mrs. Zierold referred to the first events in the history of the experimental objects. Five of the nine two-response sessions (fifty-five per cent) also included references to primary events. It was Pagenstecher's theory that if no strong emotions were associated with an object, its "original impressions" would come to the fore. As mentioned above, some of these cases are weak from the evidential point of view since it is difficult to be sure that Mrs. Zierold did not learn by normal means something about the origin or process of manufacture of the objects Pagenstecher handed to her. Perhaps the best cases are those in which objects where the primacy factor dominated were used as controls in tests of the vividness effect. The following series, numbered 53-55 and conducted on March 14 and 21, 1920, is an example. The experimental objects were three pieces of paper from a pad belonging to a colleague of Pagenstecher's who had suffered a stroke. On the first piece of paper presented to Mrs. Zierold the doctor had written a call for medical help with his left hand since he had lost the use of his right hand and also could not speak. The second piece of paper presented was written shortly before,

at the onset of the stroke, with the right hand, while he could still use it. Finally, the third piece was taken from the bottom of the pad and had presumably not been touched by the doctor. Mrs. Zierold had the following impressions when she held the first piece of paper:

I am in an office, sitting on a desk, in front of a man whose face has a bluish tint, whose eyes are languid and whose mouth is slightly distorted. He tries to write something with his left hand which apparently contains an order, as an elderly lady who is at his side with two other . . . women, leaves the room hurriedly and comes back with another woman. In the meantime a young man of about thirty-five years of age, has unfastened the collar of the sick man and gives him some water to drink. At his side stands a young girl of about sixteen or eighteen years who pets him and kisses him very affectionately. After some time a man of vigorous constitution enters the room and receives from the left hand of the sick man a small instrument which had been extracted by him from a pocket instrument case [a small lancet for bleeding]. Aided by the newcomer [the doctor called for] the young man already mentioned lifts up the invalid and carries him out of the room into an adjoining room, while I keep on seated upon the desk, being unable to move (11, pp. 29-30).

These impressions were correct. The doctor had suddenly been taken ill with a stroke, and the other events were also as described by Mrs. Zierold. In response to the second sheet of paper, she said, "I do not understand what I see. It seems to me that there are two conflicting visions, superposed one on top of the other and blending together." Her first impression was:

I see in a large room, small boys with caps on their heads who push wheel carts filled with scraps of paper of different colors and also with old rags. I see women who separate the different colors with long forks. The scraps and pieces of rags are thrown into a large boiler (11, p. 31).

Mrs. Zierold continued and described her second impression:

I see a very sick man, with bluish face, who tries to speak without results as I see only the movement of his lips and do not hear a word. He takes a pencil with his right hand and writes something on a blank paper. . . (11, p. 31).

Finally, the third piece of paper (taken from the bottom of the pad) produced only images from the paper factory.

Vivid events: As a rule, the responses which concerned vivid or emotionally intense events were the most convincing from the

point of view of supplying evidence for ESP. Several contained detailed descriptions, such as the one concerning the doctor, which it seemed impossible that Mrs. Zierold could have produced by normal means. Eleven of the fifty-three one-response sessions, or twenty-one per cent, consisted of accounts of such happenings. In addition, three of the nine two-response sessions (thirty-three per cent) also concerned vivid events. Of this total of fourteen events, twelve had to do with death, sudden illness, or other crises. The identification string belonging to the German sergeant mentioned above is an example. At the time of the experiment Pagenstecher knew the identity of the owner of the string, but was not aware of the specific event apparently described by Mrs. Zierold:

It is intensely cold and the day is foggy. . . . I am on a battlefield; it smells of gunpowder. In front of me I see a tall man standing, with a big grey overcoat on which reaches to his feet. Behind him I see three other men standing likewise. They talk German, or better said, they shout. In front of them and lying on the snow, behind an earthwork, I see a line of soldiers keeping up a continuous rifle fire. Some five meters back of the firing line there are two groups of men plainly to be seen, one consisting of about five to six men, and another one of about twelve to fifteen men.

Quite of a sudden I see coming through the air and moving with great rapidity a big red ball of fire . . . which drops just in the midst of the fifteen men, tearing them to pieces. Arms, legs, heads, pieces of uniform fly through the air. I hear the dreadful yell of the wounded and the pitiful moaning of the dying. This is a terrible sight (11, pp. 20-21).

Sergeant Saenger stated that on a cold and foggy morning on the Russian front, during World War I, he was with his superior officer ("a tall, solidly built man . . . wrapped in a large grey mantle") and two other non-commissioned officers, making four with himself, when an incendiary shell exploded on a barn housing a section of rapid fire guns and killed twenty-five soldiers who were there. "This fire bomb was the only one to hit the mark in those days, and on account of the terrible sight I witnessed, *when seeing the building aflame*, and hearing the distressing yells of dear friends buried under the burning debris, I am certain that this was the first great impression I received of the war, possibly the greatest of all, as it happened to be in the first month of my life as a soldier" (14, pp. 126-127).

This experiment was followed by another, No. 63, on May 15, 1920, also with an identity string as the experimental object, but one which was not associated with such violent events. This string evoked only impressions apparently from its manufacture, in other

words, primary events. However, there were exceptions to the vividness rule. At a third experiment in this series, No. 64, on May 16, 1920, when Pagenstecher used the identification plate which had been attached to the first string belonging to Sergeant Saenger, and which was associated with the same events, Mrs. Zierold described events connected with the manufacture of the plate, rather than the bomb explosion. Similarly, in an experiment which Prince attended where the object was a knife that had been involved in an "emotional scene" (12, pp. 280 ff.), Mrs. Zierold made only some vague statements about a knife factory. Pagenstecher was of the opinion that metal objects are not as efficient in "storing vibrations" as soft and porous ones. However, this was a bone and metal knife, and bone ought to be as good as ivory, which was used successfully in an experiment with an ivory paper knife, also attended by Prince (12, pp. 213-214).

The Swedish psychiatrist and parapsychologist, John Björkhem (2), who also conducted object association tests with hypnotized subjects, similarly concluded that vivid, or emotionally intense events were more likely to be cognized than others.

Frequent events. In the case of six of the objects in the one-response sessions, or eleven per cent, the events described by Mrs. Zierold were of frequent or long duration in the history of the object. In four of the nine two-response sessions (forty-four per cent), one of her impressions also concerned frequent events. Pagenstecher's theory that his subject responded to "stored vibrations" in the experimental object gave him the idea that the more vibrations of a particular sort were stored in an object, the stronger would be the resulting effect be. Whatever else may be said about Pagenstecher's vibration theory, it has the distinction of leading to a testable prediction which, apparently, was fulfilled in the following experiment:

In preparation for this experiment, conducted on January 1, 1920, Pagenstecher placed a piece of broken pottery in the case of a wall clock and left it there for fifteen days. The clock struck the hours and half hours. He then gave the pottery to Mrs. Zierold, who said: "I hear a *rhythmic noise*, very far off, like drops of rain falling upon glass at equal intervals; besides, I hear, now and then, a *melodious noise* as if the wind were sighing through the woods." A similar piece of pottery which had not been in the clock did not elicit any impressions of sounds. Pagenstecher then replaced the first piece in the clock and left it there for an additional seven days. This seemed to result in increased clarity of the impressions: "I hear the *rhythmic steps* of soldiers marching, and besides I perceive now and then the *sound of a musical band* playing far away." Finally, the fragment was put in the clock an additional

twenty-one days: "I hear distinctly the tick-tock of a clock and the harmonious striking of the clock bell—one, one, two, three, four..." (11, pp. 55-56).

The apparent effect of frequency has been noted by other investigators. Osty (9) said that an experiment is most likely to succeed if the experimental object has often been touched by the person about whom information is desired and little touched by anyone else. In an experiment with Richard Hodgson (23), Mrs. Piper made a similar observation and in an experiment with W. R. Newbold (23), she said that "it often causes confusion" if the objects have been "handled often and by a great many persons." Hodgson (4) concluded from his experiments with Mrs. Piper that any object can be used, provided "it has been handled or worn almost exclusively by specific persons." Similarly, H. F. Saltmarsh (22) noted that the English sensitive Mrs. Warren Elliott objected to "any article which has often been washed or handled by a great many people."

Recent events: Pagenstecher does not refer to the recency effect and there were no definite instances of it in the one-response sessions. However, in six of the nine two-response sessions (sixty-six per cent), one of the responses referred to recent events. Four of these occurred in the experiments done on January 11, 1920, with Viramontes as co-experimenter (11, pp. 56-58). In preparation for the tests, four similar pumice stones were each subjected to a different treatment for fifteen days. One was placed in a solution of asafetida and gentian, another in the case of a wall clock, a third in a refrigerated sugar solution, and the fourth in burning sulphur. During the tests, the stones were selected by Viramontes in random order and handed to Mrs. Zierold without Pagenstecher seeing which one she received at a particular time. Her statements were appropriate in all instances.

The stone which had been in the refrigerated sugar solution was selected first. It gave rise to "a sweet taste in my mouth. Besides I feel a sensation of . . . intense cold, in the tips of my fingers." Next came the stone from the clock, which evoked "the tick-tock of a watch. There seems to be a church in the vicinity as I hear the sound of bells." Then came the stone which had been in burning sulphur: "I strongly smell sulphur and I feel an intense heat at the tips of my fingers." Finally, came the asafetida and gentian stone, which produced a "most disagreeable odor unknown to me, and I have an intensely bitter taste in my mouth." Supposedly, all traces of odor had been removed from the stones treated with asafetida and sulphur; in any case, the stones that had been refrigerated or placed in the clock case could not have retained any known physical traces of these events.

The impressions regarding the recent events these stones had been subjected to were in each instance preceded by descriptions of water and fish, apparently referring to Lake Texoco, from which the pumice had been extracted. In many of Osty's (9) object association experiments with Mrs. Morel, where the purpose was to obtain information about the owner of the object, the subject instead talked about Osty himself or the person who brought him the object—in other words, about its *recent* associations. In some of the experiments by H. F. Saltmarsh (22) with Mrs. Warren Elliott, the experimental objects were sent to the S.P.R. secretary, Miss Isabel Newton, who wrapped them up and sealed them for the tests. Saltmarsh found that in about twenty per cent of the experiments, the subject referred to Miss Newton and to the S.P.R. offices rather than to the owners of the objects. As Saltmarsh noted, Miss Newton was the person who had most recently handled the objects.

Unclassifiable responses: In fifteen of the fifty-three one-response sessions, the impressions did not clearly belong to any of the four categories. In five of these, the events were possibly primary; in three, vivid; in six, frequent; and in one, recent. However, Mrs. Zierold's responses and the available information about the objects were not detailed enough to indicate definitely to which of these or other categories her responses belong.

IMPLICATIONS FOR THE SURVIVAL HYPOTHESIS

Many mediums (e.g., see 4, 6, 22, 23, 24) use objects in order to obtain information about the deceased owners of these objects. In fact, it is extremely rare to have purported communications from the dead without an object or some other physical link such as the presence of a living relative or friend of the deceased. If object association is a fact, what are the implications for survival? We would have evidence that, in a sense, past events "survive." But this kind of survival of the past would undermine the evidence for personal survival since the events associated with the object can be "recalled" by a subject without postulating any assistance from the dead. If deceased personalities are nevertheless involved in some of the mediumistic object association cases, the objects with their associated "memories" appear to function as substitute brains. However, the simpler explanation of this type of mediumistic material is that the only personality involved is the subject's. The survival hypothesis could be justified only if there were some characteristics in the response which could not be accounted for in terms of the subject's capacity to cognize the past associations of the experimental object.

In the case of Mrs. Zierold, there was no indication that she relied on anything but her own ESP powers, although she was convinced that the spirits of the dead sometimes helped her. During the final session that Prince attended, on April 16, 1921, when Mrs. Zierold was questioned during hypnosis about her beliefs regarding intervention from spirits and other topics, she said, "On some occasions they assist me, when the [matters] are transcendental. When not, they do not; I get the vision from the object itself which you give me" (12, p. 307).

CONCLUSION

Pagenstecher contributed to two important areas in parapsychology. He was, as far as I know, the first investigator to use hypnosis as a means to cultivate ESP in a gifted subject. Though other parapsychologists had conducted ESP tests with hypnotized subjects, no one had systematically utilized the trance state as a means to develop the subject's mental images. The fact that the method has been rediscovered by Ryzl and used to good advantage adds to the prospect that it may have general application in ESP research.

Pagenstecher's studies were also, I believe, the first to indicate that the (parapsychological) association of objects may be governed by the same laws that govern the (psychological) association of ideas. He did not explicitly point to the similarity between the association of ideas and the association of objects, but it cannot have been far from his mind since he compared the "stored vibrations" in the world to a "cosmic memory record" and emphasized that vivid and primary vibrations had a greater stimulating power than others. His experiments, of course, do not establish the validity of the laws of vividness, primacy, etc. for parapsychology. The investigations should be regarded as exploratory and the "laws" of object association as working hypotheses which need to be tested under strict conditions. Several of Pagenstecher's techniques involving control objects, different kinds of preparatory treatments of objects, etc., could be used in the laboratories of today with only minor modifications.

There is a phrase that "ideas are things." If we are to judge from present developments in biochemistry and biophysics, this may turn out to be literally true. At the same time it may also be true that things are like ideas in that they obey some of the laws that govern the relationship between ideas. If this is the case, it could have significant implications not only for parapsychology but for any science that deals with man and his world. I have mentioned its importance for the survival hypothesis. It will also

affect ESP research. The clairvoyance tests of Ryzl and Pratt suggest that the phenomenon played a part in their experiments; it may be operating in other card tests as well.

If physical objects in some sense retain traces of past events associated with them so that these may later be revealed to an ESP subject, an understanding of this process might also aid our knowledge of other reproductive processes in nature, such as those of memory and heredity.

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Psychical Research Foundation, Inc.
Box 6116, College Station
Durham, North Carolina 27708