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ENTIFIC QUARTERLY DEALING WITH EXTRASENSORY PERCEPTION, THE PSYCHOKINETIC EFFECT, AND RELATED TOPICS

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The Journal *of*
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VOLUME 22 JUNE, 1958 NUMBER 2

THE SEAFORD DISTURBANCES

J. G. PRATT AND W. G. ROLL[1]

ABSTRACT: This report presents the first results of an investigation of a recent series of puzzling disturbances of the type commonly referred to as poltergeist phenomena. Such physical occurrences are of interest to the parapsychologist because of the possibility that they may be instances of recurrent spontaneous psychokinesis (RSPK). If it were established that they are of that nature, a study of them would shed new light on PK.

The text contains a detailed description of those events which may be of particular significance for determining whether PK is involved. These include disturbances when objects were seen starting to move without contact, those which occurred when no one was near the object involved, and those which took place while the writers were in the house. A complete list of the disturbances, arranged chronologically, is given in the Appendix.

The evidence is discussed in relation to three hypotheses other than PK: fraud, psychological aberrations, and purely physical causes. The writers consider that these three hypotheses do not satisfactorily explain the phenomena. With the reservation that in the nature of the case the evidence is not conclusive, they consider that the RSPK hypothesis is worthy of consideration.—Ed.

INTRODUCTION

PARAPSYCHOLOGISTS have long been interested in unexplained physical happenings of the type heretofore known as poltergeist disturbances. Recorded cases have come from many different cultures and go back more than a thousand years. They have followed a remarkably consistent pattern right up to the present time. A typical instance may be described as follows: A series of unexplained noises

[1] The authors wish to express their appreciation to all those named in this report who assisted in their investigation. We are especially indebted to the members of the Herrmann family and to Detective Joseph Tozzi of the Nassau County Police.

W.G.R. took part in this investigation as Louis K. Anspacher Fellow in Parapsychology and was supported also by a grant from Mr. and Mrs. Chester F. Carlson.

and movements of objects begins unexpectedly; they continue intermittently in that location for a period which may range from a few days to several months; they are observed to be closely associated with a young person, most often someone in the early 'teens, and sometimes follow this person to another location; and the disturbances end as unaccountably as they began.

For several decades following the formation of the societies for psychical research, frequent efforts were made to appraise the better historical cases and to investigate current ones. Not only were many such occurrences described in the publications of these societies, but there were also general reviews of the topic (for two good examples, see **1** and **4**). Scientific interest in the phenomena then seemed to diminish, especially during the three decades starting about 1920 when the emphasis in parapsychology was placed upon psi effects that could be studied experimentally. However, public interest remained as strong as ever, and cases continued to appear in the popular press at the rate of about three a year (a conservative estimate based upon the number that came to the attention of students of the subject). The topic has also been presented seriously, even if not always critically, in popular books (**2**, **13**, **14**).

During the past decade, parapsychologists have again shown an inclination to examine this category of natural events more closely. New cases have been described in the scientific literature, though they have been offered only as keeping open the question of a possible parapsychical element and as emphasizing the need for further investigations (**6**, **7**, **8**). This renewed interest in an old problem has followed logically from the experimental evidence for psychokinesis (PK). The conclusion that PK had been demonstrated in laboratory tests with dice was announced in the early forties (**11**), and since that time it has been widely confirmed (e.g., **3**, **5**, **9** to mention only a few examples). The laboratory evidence for a "direct influence exerted on a physical system by a subject without any known intermediate physical energy or instrumentation" (**12**) has given new scientific interest to unexplained physical events which suggest the operation of a "mind-over-matter" principle under natural conditions.

Once the investigator is convinced by his experimental data that

PK has been established, the contrast between the laboratory results and the striking spontaneous disturbances makes the latter all the more inviting as an area for research. For while the experimental evidence indicates that PK is a normal and widely distributed human capacity, the effect found in the tests is so limited that it must be measured statistically. But the fact that *PK has been demonstrated under controlled conditions,* no matter how slight the effect, raises the question whether under other circumstances it may not produce really striking physical changes and whether "poltergeist" cases may not be such instances of PK. Even if investigations of such happenings give no definite proof but only a likely probability that PK is involved, the study of them might lead to the development of better experimental methods and thus help achieve a break-through toward the objectives of understanding and control of PK.

For the purposes of this report, it is necessary to settle at the outset some questions regarding terminology. The word *poltergeist* (German for "noisy spirit") is very likely a misnomer, since it implies an agency apart from any living organism. The term *psychokinesis* does not specify the type of agency, except that it is personal and psychological, and this word would therefore seem more appropriate at the present. But some further designation is needed to describe the type of PK that would be involved, say, in the movement of household objects without contact or mechanical means. Disturbances of this kind begin unexpectedly or spontaneously and they recur over a period of time. This leads to the specific designation of such occurrences as cases of *recurrent spontaneous psychokinesis,* or RSPK. There is the other category of apparent spontaneous PK in which the physical event (or two or more events occurring simultaneously) are isolated, such as the alleged stopping of a clock or the falling of a picture at the time of someone's death. If parapsychical, such events would belong in the class of *isolated spontaneous psychokinesis,* or ISPK.

For the present, the supposition that the cases to which the terms RSPK and ISPK apply are really examples of PK belongs in the category of unproved hypotheses.

As part of its program for the study of spontaneous psi occur-

rences initiated in 1948 (10), the Parapsychology Laboratory of Duke University has taken an interest in reported instances of apparent RSPK. Single instances of possible RSPK were described in the *Parapsychology Bulletin* of August, 1949, and May, 1954. In the *Bulletin* of November, 1957, four cases were described which were located within the United States. The Parapsychology Laboratory attempted to conduct a scientific study of each of these, but in none did an investigator have the opportunity to make the observations needed for even a tentative conclusion.

The hope was expressed that future cases will be brought to the attention of parapsychologists as soon as the disturbances begin so that an adequate study can be made. The *Bulletin* continued: "If some first-hand evidence could be obtained from observing at least one reasonably clear-cut case—a case that produced the usual puzzling poltergeist effect—further serious studies of these claims as a whole would be in order."

The opportunity to carry out a first-hand investigation came in mid-February of this year when information that objects in the Herrmann household in Seaford, Long Island, were being disturbed in an unexplained manner was brought to the attention of the Parapsychology Laboratory of Duke University through newspaper reports. Accounts covering a period of several days suggested that the disturbances were upsetting to the family, which consists of Mr. and Mrs. James M. Herrmann and their two children, Lucille (age 13) and James (age 12). The police, who had been called in to investigate the case, were unable to explain the occurrences. On the surface, therefore, it seemed that the case might contain something of parapsychological interest.

At this stage, J.G.P., with the approval of Mr. Herrmann, went to Seaford to make a first-hand investigation. He remained there four and one-half days. During the first half-hour of his visit, there were two disturbances. The following four days had no unexplained occurrences—the longest quiet period since they had started on February 3—and J.G.P. departed on March 1.

The disturbances started again on the following day (Sunday). With the co-operation of Detective Joseph Tozzi and the Herrmanns, J.G.P. and W.G.R. arranged to make an unpublicized visit to Sea-

ford. (An attempt had also been made to keep the first visit confidential but the news leaked out.) We went on March 7 and spent more than a week studying the case without any distracting publicity. Besides working with the official police records and collecting additional information through interviews and direct observations, we recorded new disturbances which occurred while we were in the house.

From the scientific point of view there are two main questions about the case: 1. Were the disturbances caused by known physical processes or were they instances of PK? 2. If a critical study of the evidence gives sufficient support to the parapsychical interpretation of the case, the question arises: What are the psychological factors which may throw light upon the nature of these particular RSPK effects and upon PK in general?

Several aspects of the Seaford case make it an especially promising one for investigation. First in importance is the existence of a documentation of the developments in the form of the official police record. This dossier was started on February 11, eight days after the disturbances began. Events up to that time were recorded on the basis of interviews with members of the Herrmann family and the preliminary police investigation after they had lodged a complaint on February 9. From February 11 onward, Det. Tozzi of the Nassau County Police was assigned to full-time duty on the case, and he interviewed the people who were in the house and recorded their accounts within a short time (a few minutes or, at most, a few hours) after the disturbances occurred.

Another advantage is due to the fact that several people outside the family were in the house when some of the effects took place.

Still another fortunate circumstance was the desire of the family for help toward understanding the cause of the disturbances and bringing them to an end. Consequently, they willingly opened their doors to the investigators from the Parapsychology Laboratory at Duke (as to others who took an interest in the case) and willingly answered all questions put to them.

Plan of This Study

The objective in the present paper, as already indicated, is to deal with the evidence of the case insofar as it bears on the ques-

tion: Were any of the disturbances not due to physical causes and do they thus deserve further investigation as likely RSPK events?

We will present in the Appendix a complete list of the unusual events. The statements made in the list give the salient features of the disturbances as they appear in the police record and as they have been described to the writers.

For a description of the occurrences when we were both in the house we have relied throughout the paper entirely on our own notes. The events are numbered chronologically from the first one, on February 3, through the last one, No. 67, which was observed by W.G.R. and J.G.P. on March 10. To what extent this list represents the actual facts is, of course, the crux of the scientific investigation.

A plan of the two floors of the house is shown in Figures 1 and 2 (pp. 86 and 87) and the locations of the 67 disturbances have been shown as accurately as they could be determined. A number without a circle refers to a disturbance in which the piece of furniture in question was upset. The black dots (identified by the numbers inside the circles) show the approximate position of smaller objects *before* they were disturbed. The two numbers in broken circles were noises not associated with any objects. (Another isolated sound, No. 46, was not localized and is therefore not shown on the floor plans.) When an object changed its location during a disturbance, the arrow shows the direction of its movement and how far it went when this was recorded.

From the point of view of evidence of a parapsychical element, the 67 disturbances vary widely. The three classes of events that bear most directly on this question are: 1. Those in which someone saw an object move without apparent physical means of propulsion. There are four events in this group. 2. Those in which some unseen occurrence took place when no one was near enough to have caused the disturbance or had any discoverable means of doing it from a distance. There are 13 events in this category. 3. The five events which occurred when one or both of the Duke investigators were present. (Two of these also belong in the second category.)

The events in these three categories will be described in detail and afterwards will be critically discussed.

A second objective will be to analyze the occurrences to gain as much insight as possible into the nature of RSPK, provided the events appear to have taken place as stated and therefore are likely to be psychokinetic. Here, the crux of the matter is whether a personal agency can be found. In a later paper we shall therefore examine the disturbances from various points of view to see what clues can be found bearing on possible psychological relationships. For this purpose it will be proper to take all the occurrences into account, those of little evidential value as well as those examined in greater detail in this first report.

Objects Seen to Move Without Contact

There are, among the 67 distinct events listed, four which involved objects actually seen to start to move without contact. The first two form a double event in that two objects were seen to move at the same time. These four events are described in detail in the following subsections:

Two Bottles Seen to Move (Events 18 and 19)

The following is an excerpt from the police record concerning Sunday, February 9:

> Mr. Herrmann standing in bathroom doorway, son James at sink brushing teeth, actually saw a bottle of Kaopectate move along the formica top of the drain in a southerly direction for about 18" and fall into the sink. At the same time a bottle of shampoo moved along the formica drain in a westerly direction and fell to the floor. There was no noise or vibration and no one touched either bottle to move them.

When the writers questioned Mr. Herrmann and James about these two events, their description was entirely consistent with that found in the police report. Our interviews and observations brought the following additional facts to light: Mrs. Herrmann cleaned up the bathroom cabinet after the shampoo and Kaopectate bottles had previously spilled (Events 14 and 15) and she had placed these two bottles on the vanity table. Mr. Herrmann saw *both* bottles start to move. He said that James "froze" in his position. James said he saw the Kaopectate bottle when it fell into the sink. He did

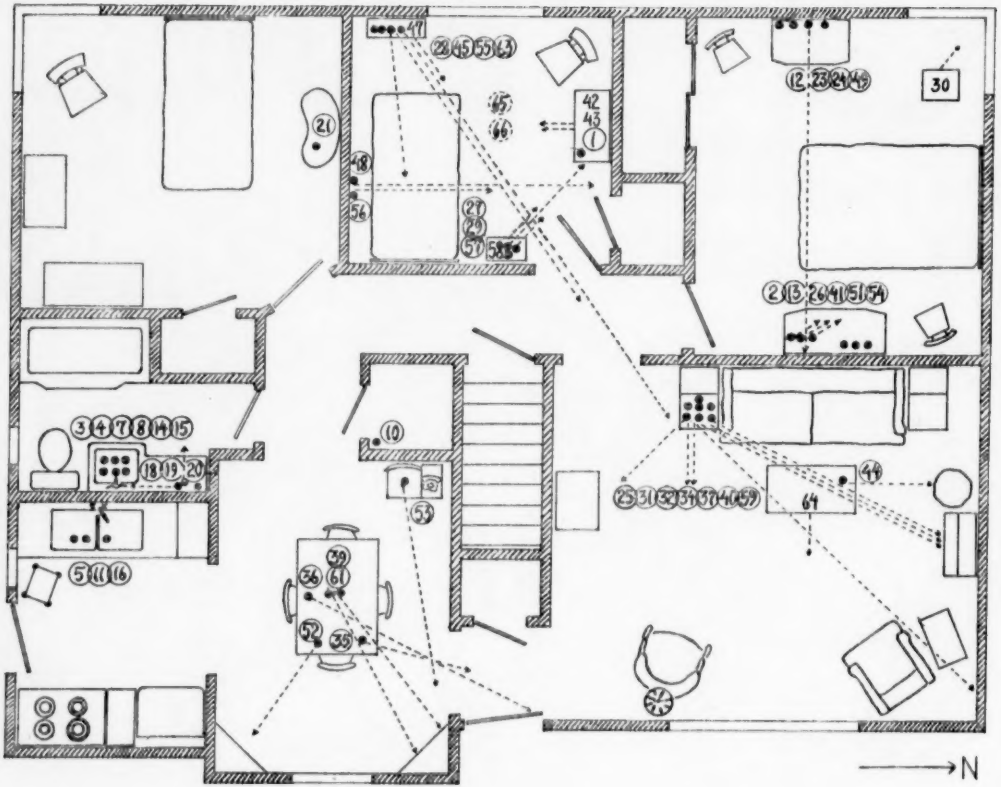

FIG. 1. Plan of the main floor of the Herrmann residence showing the locations and chronological order of the disturbances. All the larger furnishings and fixtures which rest on the floor are shown, and the approximate locations of smaller objects (represented by black dots) which were disturbed. The numbers refer to the descriptions of the unexplained events in the Appendix. Those without circles indicate pieces of furniture that were disturbed; those in solid circles refer to small objects that were disturbed; and the two numbers in broken circles correspond to unexplained noises not associated with any object. The arrows indicate the approximate direction and distance of motion, when they were known, of objects displaced from their original position. Scale: approx. 1/70.

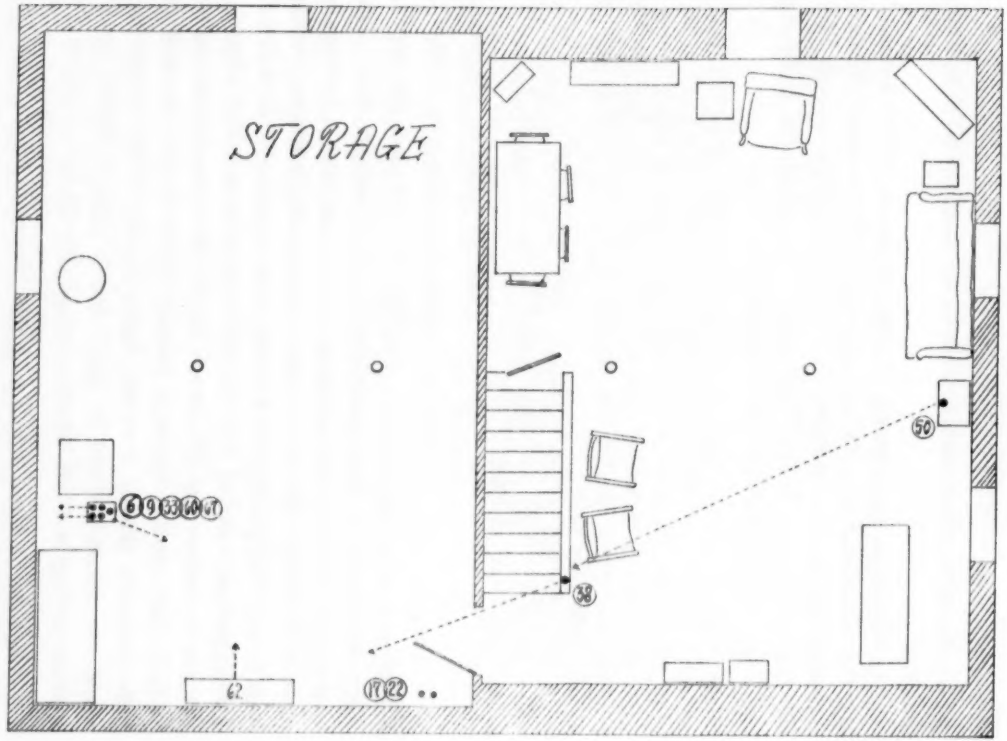

FIG. 2. Plan of the basement floor of the Herrmann residence. For explanation, see Figure 1.

not see the other bottle, though of course he heard the crash as it hit the floor.

Mr. Herrmann stated that it was this occurrence which convinced him that the disturbances in his home were of an unusual character and which led them immediately thereafter to lodge a complaint with the Nassau County Police Department. He wrote the following statement for the investigators on March 14:

> At *about* 10:30 a.m. I was standing in the doorway of the bathroom. All of a sudden two bottles which had been placed on the top of the vanity table were seen to move. One moved straight ahead, slowly, while the second spun to the right for a 45° angle. The first one fell into the sink. The second one crashed to the floor. Both bottles moved at the same time.
>
> Both bottles had become unscrewed while they were in the cabinet under the sink. They had been placed on the vanity top while the cabinet was being cleaned.
>
> (Signed) James M. Herrmann

The vanity table on which the bottles stood is slightly tilted in a southwesterly direction (i.e., towards the sink and the floor). The southerly tilt is about one-sixteenth of an inch per foot. The westerly tilt is about one-quarter of an inch per foot. The top is made of formica. W.G.R. tested the Kaopectate bottle by placing it on the top after having put wet soap on it to minimize the friction. (Mr. Herrmann stated that the top was clean and dry when he saw the bottles move.) The bottle did not slide even when pushed. W.G.R. then made a test with a small marble (about one-half an inch diameter) placing it on the vanity top where the bottles had stood. It would not roll by itself, but if pushed slightly would continue rolling in a SW direction, diagonally across the board.

Figurine Seen to Move from End Table (Event 25)

This occurrence took place on Sat., February 15, at 7:40 p.m. when only the two children and their adult second cousin, Miss Marie Murtha, were in the living room. The visitor left shortly after this event and before Det. Tozzi arrived. He therefore based his first report on interviews with the family, but contacted Miss Murtha two days later by telephone and obtained her first-hand

account of this event. This is summarized in the police record as follows:

She stated that she is the cousin of Mr. Herrmann and was visiting at his home on Saturday February 15, 1958, and stated that she was sitting in the living room of the complainant's home and the two children were with her. The boy sitting in the center of the sofa and the girl was standing next to Miss Murtha who was sitting in a chair in the northeast corner of the living room. Mrs. Herrmann went into the bathroom and when she turned on the light in there it caused interference on the television set. The girl started across the room to fix the set and before she got there the picture cleared by itself. The girl came back to where Miss Murtha was sitting and the boy was still sitting on the sofa with his arms folded. At this time a porcelain figurine that was standing on the end table at the south end of the sofa was seen to leave the table and fly through the air for about two feet, directly at the television set. The figurine fell to the floor about six inches from the television with a loud noise. The figurine fell to the floor but did not break. Miss Murtha stated that she actually saw the occurrence and there was definitely no one in the room that was close enough to touch the figurine or propel it in any way.

On March 13, J.G.P. had an interview with Miss Murtha, a single, middle-aged lady, in her home in the Bronx, New York. Her description was consistent with the account she had earlier given the police. Some of the details were amplified as follows.

When Lucille went to look at her hair in the glass front of the secretary, James made some joking remark to Miss Murtha about Lucille and her hair and Miss Murtha turned to listen to him. When she did, she noticed the female figurine on the end table begin to move—"wiggle" was the word she used. Then, when she was looking directly at the figurine, it left its position on the end table very suddenly and moved through the air in the direction of the TV so rapidly that she could not really see it, but only saw something like a white streak or white feather in rapid motion. She thought that the figurine had turned and that it was its white back which she saw. It landed with a very loud crash. She could not tell whether it had struck the TV, the floor, or the rug. There were no marks on the TV or floor, and the figurine ended its fall on the rug so it may have struck there; but it made an unusually loud noise. The figurine was not broken and she could not imagine

why it was not. Immediately afterwards, Mr. Herrmann came into the living room from the central hallway entrance and asked who knocked it off. Miss Murtha said she told him that no one had done it, she had seen it start to move and then fly off by itself while James was sitting with his arms folded in the middle of the couch looking directly at her.

Miss Murtha impressed J.G.P. as being level-headed and intelligent. She said that her idea was that the things which had been happening in the house must have an electrical cause, and recalled an event from her childhood in which she had seen a coffee pot hurled to the ceiling when it caused a short-circuit on an electrical heating unit. She could not explain the events in her cousin's home but she did not believe there was anything supernatural involved. She lamented the publicity and was afraid of its effect on the children.

As J.G.P. left, he asked Miss Murtha if she would write a letter describing her experience in connection with the figurine. The relevant paragraph from this letter (dated March 17) is given below:

> James, his sister, Lucille, and myself were sitting in the living room —I was sitting in the green chair in the corner between the secretary and the window—James and Lucille were seated on the sofa—there is a table at each end of this sofa—on one table was a lighted lamp and two figurines—we were looking at the television when the picture started to flicker—I asked Lucille to adjust it—as she went to do so the picture cleared—on her way back to her seat I asked to feel the material in her slacks and remarked that they were smart, but thought she was neglecting to set her hair. Lucille then turned to look at herself in the glass of the secretary and James said, "Auntie Marie, she is always fixing her hair"—I turned my head in his direction to answer him—as I did I saw the female figurine wiggle (like that of a worm cut in pieces)—as it went in the air it looked like a small white feather—then crashed to the rug, unbroken. The children's parents were in other rooms of the house and hearing the crash came hurrying into the living room to see what happened.
>
> (Signed) Marie H. Murtha

Night Table Seen to Turn and Fall (Event 58)

The police record contains the following statements about this event which took place on Sunday, March 2:

> On the above date at about 2210 hours [10:10 p.m.] James was in bed, as was Lucille. Mrs. Herrmann was in the kitchen and Mr.

Herrmann was sitting in the easy chair in the southeast corner of the living room facing the boy's room. A very loud crash was heard and Mr. Herrmann ran immediately into the boy's room. As he got to the door of the boy's room a small three-drawer night table which had been about 18″ to the north of the bed twisted and fell to the floor across the door. The boy was on his back in bed with the covers up to his chin at the time the complainant got into the room. Apparently the first crash was the brass lamp on the top of the night table as it was on the floor and the base was badly bent as if the table had fallen on it. The glass globe was broken but the bulb inside was not. Mr. Herrmann was almost in the doorway when the table fell and he had a flashlight in his hand. The light was on and he stated that the boy was laying in the bed and appeared very frightened. He did not move at all to the complainant's knowledge.

On the evening of Friday, March 7, 1958, Mr. Herrmann, discussing the occurrences of the last few days with J.G.P. and W.G.R., stated that before the event of the previous Sunday evening involving the end table had taken place, he had felt that something more would happen that night. Accordingly, he took his position in the chair in the southeast corner of the living room facing toward the hallway and looking into the darkened bedroom of the boy. His flashlight in his hand, he was prepared to spring toward James's room immediately if any sound came. When there was a noise, he dashed into the room with the flashlight burning, and snapped on the ceiling light in the room. He stated that he saw the boy lying quietly in bed and that, before his eyes, the end table turned about 90° and then fell forward onto the floor without any visible means to account for the motion.

Disturbances Which Took Place When No One Was Near

This section will deal with a second class of disturbances which are relevant to the question whether any of the events were parapsychical in nature. It includes those happenings in which the exact location of the persons in the house, as clearly indicated by corroborated testimony, makes it highly unlikely that any of them could have produced the disturbances in any ordinary way without discovery. There are 13 occurrences in this class.

Bottle Jumps from Cardboard Box in Unfinished Cellar (Event 6)

The police record has the following statement concerning this occurrence, which took place on February 3:

Mrs. Herrmann and Jim, Jr. in the cellar actually saw a half-gallon bottle of Clorox leave a cardboard box and fall to the floor and break. Mrs. Herrmann and James were about six feet away from the box at this time.

When interviewed by the writers, neither Mrs. Herrmann nor James was able to say that they had actually seen the bottle leave the box. Mrs. Herrmann said that the first thing she was aware of was the crash when the bottle struck the floor in front of her when they were about half-way across the room. James stated that he saw the bottle just before it hit the floor, and he automatically pulled some clothes, on the lines that crossed the middle of the room, in front of his mother to protect her from flying glass and splashing liquid.

Noises of Bottle Disturbances Heard While Entire Family Was in the Dining Room (Events 12-17)

These disturbances, which took place on Sunday, February 9, are described as follows in the police record:

> At about 1015 hours [10:15 a.m.] the whole family was in the dining room of the house. Noises were heard to come from different rooms and on checking, it was found that a holy water bottle on the dresser in the master bedroom had opened and spilled, a new bottle of toilet water on the other dresser in the master bedroom had fallen, lost its screw cap and also a rubber stopper, and the contents were spilled. At the same time, a bottle of shampoo and a bottle of Kaopectate in the bathroom had lost the caps and fallen over and were spilling their contents. The starch in the kitchen was also opened and spilled again and a can of paint thinner in the cellar had opened, fallen, and was spilling on the floor.

Noise of Bottle Overturning in Bathroom Heard when Patrolman Hughes and Entire Family Were in the Living Room (Event 20)

The statement from the police record concerning this later event on Sunday, February 9, is as follows:

> While Patrolman J. Hughes was at the complainant's home all the family was present with him in the living room when noises were heard in the bathroom. When Patrolman Hughes went into the bathroom with the complainant's family he found the medicine and shampoo had again spilled.

On March 10, J.G.P. and W.G.R. had an interview with Patrolman Hughes. Hughes stated that only one bottle was involved in the particular incident which happened while he was in the house. When he and the whole family were in the living room they heard a noise from the bathroom as if a bottle had fallen over, and when the bathroom was inspected, a bottle (probably the Kaopectate which was involved in Event 18) on the vanity table was found on its side.

Hughes had inspected the bathroom prior to this occurrence. It had at that time already been cleaned up after the last disturbance (when the shampoo had crashed on the floor and the Kaopectate bottle had fallen into the sink) and he was convinced that the bottle was not then lying down ("I can swear to that!"). When further questioned, Hughes said he could not exclude the possibility that someone had turned the bottle over after he had first seen the bathroom, but in this event he could not account for the noise.

Crash of Figurine in Living Room when Mrs. Herrmann and Both Children Were Together in the Hallway Near the Dining Room (Event 37)

This event is one of a number of disturbances which took place during the evening of Thursday, February 20. The immediately preceding occurrence finally led Mrs. Herrmann to take the children with her into the hallway to seek shelter. These two occurrences are described as follows in the police record:

On the above date at about 2145 hours [9:45 p.m.] Mrs. Herrmann was on the phone in the dining room, James was right next to her and Lucille was in the bedroom. James was putting his books away and there was a bottle of ink on the south side of the table. A very loud pop was heard and the ink bottle lost its screw top and the bottle left the table in a northeasterly direction. The bottle landed in the living room and the ink spilled on the chair, floor and on the wallpaper on the north side of the front door. Mrs. Herrmann immediately hung up and called the writer, who had left the house about 10 minutes prior to this occurrence. When the writer arrived it was learned that as soon as Mrs. Herrmann called, she had taken the two children with her into the hallway to await the arrival of the writer. At about 2150 hours [9:50 p.m.] while the children were with her a loud noise was again heard in the living room. All three of them went into the room and found the male figurine had again left the end table and had again

flown through the air for about 10 feet and again hit the desk about six inches to the east of where it had hit the first time. On this occurrence the only noise heard was when the figurine hit the desk and at this time it broke into many pieces and fell to the floor. At this time the only appliance running was the oil burner and no one was again in the room.

We questioned each of the three people separately on their movements during this period. The facts were corroborated as reported. The three were standing in the end of the hall near the bathroom out of sight of the contents of the living room when the loud crash sounded. Mrs. Herrmann was standing with her back to the linen closet and James and Lucille were standing in front of the bathroom door. They were all facing one another.

Dresser Overturned in James's Room (Event 43)

This event, which took place on Monday, February 24, is described in the police record as follows:

On the above date at about 1640 hours [4:40 p.m.] the complainant was in the kitchen fixing dinner, Dave Kahn and Mr. Herrmann were in the dining room, both children were in the cellar, when a loud crash was heard from the boy's room. All ran to the room and found the dresser had again fallen over in a southerly direction. At the time of occurrence James, Jr. was coming up the cellar stairs and Lucille was sitting at the table in the cellar. When the complainant, Kahn, and Mr. Herrmann got into the hall the boy was just coming up the stairs. The cellar door was closed at the time.

During his first visit, J.G.P. questioned all the members of the family and found that they individually agreed with the description given in the police report. Mr. Kahn, a reporter from *Newsday,* was interviewed on March 15 by W.G.R. and the following notes, which he made immediately after the occurrence, were obtained:

February 24, Mon. at 4:40 p.m. while Jim [Mr. Herrmann] and I in dinette going over phone calls about the matter, a loud rumble and crash—scarry again—and both of us realized that it was another object going over—jumped up and ran to Jimmy's room—he at doorway after coming up from downstairs where he was working on his stamp collection—Lucille in cellar: "It sounded like the walls were caving in, I thought it came from the living room, the dining room, everywhere." Mrs. H. in kitchen fixing dinner. DK toilet articles

[which Kahn had left on James's dresser], including bottle of hair tonic, went over and bottle broke.

From the wording of the police report this event sounded as if it might be an instance in which the occurrence of a major disturbance in an empty room could be vouched for by someone other than a member of the family. In the interview with Mr. Kahn, W.G.R. asked him whether he could testify that James was in the cellar at the time the bureau turned over. Mr. Kahn replied that he could not so state; by the time he reached the hallway, James was standing in the hall looking through the open doorway into his bedroom. The report given by James and corroborated by Lucille is that both of them had been seated at the table, back of the stairway in the rumpus room, and that James had just left his chair. James said he had to go to the bathroom. Both children said he was only part way up the stairway when a loud noise described as a rumbling sound seemed to come from all over the house. For a short time James stopped on the stairway, then he proceeded to the head of the stairs and was on the point of opening the door when his father rushed from the dining room into the hallway. Since the door to the cellar stair blocks the hallway when open, James waited until his father had passed. He then followed his father to the bedroom doorway, where he was standing when Mr. Kahn reached the hallway. When questioned regarding the apparent discrepancy between the official record and Mr. Kahn's statement, Mr. Herrmann said that when the noise occurred he leaped from his chair so quickly that he turned it over and he did not take time to catch it. He stated that Mr. Kahn, being less accustomed to the disturbances, was startled and did not react so quickly. Mr. Kahn took longer to reach the central hallway where he could see past the cellar door. Thus the statement that James was on the cellar stairway when the bureau overturned in his room rests on the testimony of Mr. Herrmann and of Lucille.

Crash of Figure of Virgin Mary in Master Bedroom (Event 49)

The police record describes this event which took place on Tuesday, February 25, in the following words:

At about 0720 [7:20 a.m.], this date the complainant was in the

kitchen, Mr. Herrmann had gone to work, and both children were in their rooms getting dressed for school. A loud crash was heard and Mrs. Herrmann ran immediately to the hall. She asked what had happened and both children stated it wasn't in their rooms. All of them went into the master bedroom and found that a 16" plaster figure of the Virgin Mary had gone from Mr. Herrmann's dresser on the west wall to Mrs. Herrmann's dresser on the east wall. This figurine had knocked down Mrs. Herrmann's picture on Mr. Herrmann's dresser and had struck a wooden mirror frame over Mrs. Herrmann's dresser. The figurine then fell to the dresser and one hand broke off it. It also knocked down a lamp on the latter dresser and broke the bulb. All persons present stated that they had heard nothing prior to the crash and had not been in the master bedroom at the time of the occurrence.

On Thursday, February 27, Mrs. Herrmann discussed this case with J.G.P. in the light of the implication given by one newspaper that James could have caused all the occurrences. She said that the children had been specifically instructed not to move from where they were when some disturbance occurred. When the noise in this instance was heard, James immediately called out from his room that it was not in there. Thus he confirmed the fact that he was not in the master bedroom at the time of the impact. For the damage to have been done as it was, James would have had to throw the figure from a position directly in front of the mirror which was struck in the master bedroom. If he called out at once from his own room, he would not have had time to get there before identifying his position. Could James have staged the occurrence, upsetting his mother's picture on his father's bureau and then throwing the figure from the hallway near his own bedroom door? Under these conditions the figure could not have dented the *front and inside* surfaces of the mirror frame, neither would it have marred the bureau top directly below the point of impact on the mirror, nor have fallen onto the floor in the spot where it was found. The overturned picture, the marks on the mirror, and the other effects are consistent with the interpretation that the object came from its customary position on Mr. Herrmann's bureau.

In addition to these 11 disturbances, there are two others (Events 51 and 67) when the position of the family and visitors was accounted for. Since they took place when J.G.P. and W.G.R.

were in the house, they will be discussed fully in the following section.

Disturbances Which Occurred with the Authors in the House

The prospect of making a fully satisfactory study of such a case depends primarily upon whether the investigator is on the scene when disturbances are taking place. We consider it worth while, therefore, to amplify the account given in the list of unexplained events by a detailed description of the five disturbances that happened while one or both of us were in the house (Events 51, 52, 65, 66, and 67). Two of the five were merely unusual noises which would have attracted only passing notice in any other situation. But as they were similar to noises that had been recorded earlier in the Herrmann household in connection with the disturbances of physical objects, they deserve to be made a part of the record, if only for the sake of completeness. The details regarding each of the five events observed by one or both of the writers are presented below.

Overturning of Lamp in Master Bedroom (Event 51) and Fall of Bread Plate from Dining Table (Event 52)

On Tuesday, February 25, at about 7:30 p.m. Mr. Herrmann was on the phone in the dining room, James was at the table eating, Mrs. Herrmann and Lucille were in the dining room-kitchen area preparing dinner, and Sgt. B. McConnell, Mr. Kahn, and J.G.P. were in the cellar looking at the phonograph when a noise was heard upstairs. The noise was not heard by the three people in the rumpus room. What we did hear was the voice of Mr. Herrmann asking what the noise had been and footsteps as he and Mrs. Herrmann went down the central hall from the dining room in search of the explanation. When J.G.P. reached the master bedroom, Mr. Herrmann was looking at the overturned lamp (and a bottle it had fallen on). He asked his wife if she had left them that way all day. Mrs. Herrmann stated that both the lamp and the bottle had been standing upright. This event belongs with those already described in which a disturbance occurred when no one was near.

The bread plate incident happened while Mr. Herrmann, Mrs. Herrmann, and J.G.P. were still in or near the master bedroom talking about the lamp and while James was alone in the dining room. J.G.P. learned about it when he came into the dining room and found Lucille picking the bread up from the floor. His attention had been attracted to the incident by Lucille's exclamation upon finding the bread on the floor and her question about how it got there. She had placed the bread on the table only a minute or two earlier and had gone to the front door to watch the fire truck outside, where the firemen were measuring the depth of water in a reservoir well maintained by the Fire Department. (Someone had suggested that sudden changes in the level of the ground water might be relevant to the disturbances, and Det. Tozzi had requested the checking of the well.) Lucille found the bread on the floor as she was returning to the kitchen to continue with the preparation of the meal. J.G.P. asked James if he had seen the plate move, and he answered that he had not; he was looking at his own plate and had not seen any motion—he had only heard the noise when the plate hit the floor. It would have been very easy for James to shove the bread off the table. But if he had done so, it is hard to imagine why he would have said that he did not see it move (which, in view of the fact that the plate was sitting only slightly toward his left, not more than four feet away from his eyes, is rather surprising). Would he not have got more out of his "prank" by saying that he saw the plate take off and sail through the air? This would have been more dramatic and at the same time easier to believe than the statement he made. However, this event by itself has no value as far as the question of evidence pointing to a parapsychical explanation is concerned.

Unexplained Thumping Sounds (Events 65 and 66)

After supper on March 9, J.G.P. watched TV with the children in the living room while W.G.R. and Mr. Herrmann talked in the dining room. About 9:00 p.m. the children went to bed. At 9:40 James was in bed with the light out and with the door open. Mrs. Herrmann was in the kitchen and Lucille was in her room in bed. At that time there was a dull thump, which J.G.P. heard as coming from

across the hall in the direction of the boy's room. Mrs. Herrmann came out of the kitchen into the hall towards James's room, asking: "What was that noise? Did anyone hear it?" J.G.P. said yes and both of them looked about in the bedrooms but found nothing. Then Mrs. Herrmann and W.G.R. went to the basement and also here nothing was found disturbed. Neither W.G.R. nor Mr. Herrmann, who were talking in the dining room, noticed the noise.

At 9:45 there came another thump, louder than before, and all adults joined in the search. Mrs. Herrmann was obviously shaken. Lucille, still in bed, said it came from James's wall just as if he had hit it with his fist or elbow. J.G.P. asked James to do this and he was able to get nearly the same sound. (J.G.P. himself later tried several times to duplicate the sound by striking the wall but it never seemed to have the same tonal quality. Furthermore, striking a blow on the wall made objects about the house rattle, which was not the case when the original sound was heard.) James said he was half awake both times the thumping noise was heard.

Disturbance of Bleach Bottle in Basement When All Persons in the House Were on the Main Floor (Event 67)

In the evening of March 10, Mr. Herrmann stayed in New York to appear on a radio program. At 8:14 p.m. when W.G.R. was sitting at the east end of the dining room table and J.G.P. was in the living room, there was a loud dull noise which to W.G.R. sounded as if it came from the floor or lower wall of the kitchen-bathroom area. James was at that time in the bathroom, Lucille was in bed, and Mrs. Herrmann was in the master bedroom coming towards the central hallway. W.G.R. investigated upstairs and J.G.P. went down to the unfinished part of the cellar. Here he found that the bleach bottle in the cardboard box by the washing machine was standing on an overturned jar containing starch, and the bleach bottle had lost its cap and was leaning against the side of the box. The cap was on the floor back of the box towards the south wall. The contents of the bottle had not spilled, as it was not full.

At 8:30 p.m., sixteen minutes after the noise was heard, an investigation was made of the cap of the bottle, which had fallen right side up. It was found to be still wet inside and there was a

wet spot on the floor below the cap. The wet spot was further observed at fifteen minute intervals and was found to have completely dried up within 45 minutes of the time the noise was heard.

Though this event was of a minor sort as compared to some of the other disturbances, it would be of the greatest significance for the present purpose if it could be conclusively proved that this occurrence took place at the same time the noise was heard, as the cellar at that time was known to be empty.

The noise itself was not sufficiently well localized to definitely establish that it had come from the unfinished cellar rather than from the bathroom where James was at that time. Therefore the possibility had to be entertained that he had some time earlier staged the bottle effect and then later produced the sound. The investigators could definitely establish that James could not have been in the cellar during the thirty-minute period before the disturbance of the bleach bottle was discovered. For at least half an hour prior to the occurrence W.G.R. was with James in the dining room where they were participating in a PK game with dice. When this ended shortly after 8:00 p.m. James went immediately to his room and then into the bathroom.

It was therefore important to establish whether the wet spot under the bottle cap could help to determine the time of the occurrence. It was observed the same night by Det. Tozzi and J.G.P. that when a drop has formed on the inside of the cap, it only comes off if the cap is placed down forcefully and not if it is simply placed on the floor. Further tests this night and the next day by J.G.P. and W.G.R. with the bleaching liquid showed that the spot will be *perceptible* for about three-quarters of an hour but only moist and dark for the first 15 minutes or so. The spot discovered under the cap 16 minutes after the noise was definitely dark in color.

If James had staged the event 30 minutes before he made the noise, which is 46 minutes before the investigators observed the wet spot, this should already have disappeared or should have been on the point of fading away. In addition to this, it seems unlikely that there should be any spot at all if the event were staged, as a drop will become disengaged from the cap only if this is dropped from above or smartly tapped on the concrete.

The sound connected with the bleach bottle was similar in tonal quality to the two sounds heard on the preceding evening. However, it was considerably louder than either of the previous thumps had been, and everyone in the house at the time heard the sound quite distinctly. W.G.R. localized it as coming from low down in the region of the wall separating the kitchen from the bathroom, and James, when questioned by Mrs. Herrmann, said that he had not done anything in the bathroom that could have caused it. (On March 13, J.G.P. interviewed Mr. J. M. Gold of the *London Evening News,* who had been present on March 4 and had heard four thumping sounds, which had been associated with a similar bottle incident. Mr. Gold described the sounds he had heard as coming from the same region and as being somewhat like loud knocks in the water pipes. He could get a similar sound by suddenly closing a faucet in the bathroom, but not sufficiently similar to be mistaken for the unexplained thumps.)

On Thursday, March 13, W.G.R. sat in the chair he had occupied in the dining room when he heard the sound on the preceding Monday. J.G.P. went to the unfinished cellar and struck several objects near the point where the bleach bottle was disturbed. W.G.R. stated that the sounds so produced were "right" insofar as the localization was concerned, but not of the same quality as the one he had heard on Monday evening. J.G.P. agreed that he had not been successful in duplicating the tonal qualities of the noise associated with the disturbances of the bleach bottle.

Discussion

In the present report we are restricting ourselves to the question whether the disturbances can be satisfactorily explained in familiar terms, for it is only if they cannot that they remain of interest to the parapsychologist.

Three types of non-parapsychical causes may be advanced. The occurrences reported might be due to (a) fraud, (b) psychological aberrations, or (c) physical causes.

The Fraud Hypothesis

We shall first consider the possibility that one or both of the children caused the disturbances fraudulently (the "Childish Pranks

Hypothesis") and then whether Mr. and Mrs. Herrmann might have been party to such fraud (the "Family Hoax Hypothesis").

Under the former heading we shall discuss the possibility that the disturbances were (a) simple tricks, and then whether they could have been caused by (b) skilled "magic."

Childish Pranks Hypothesis. This hypothesis was in our minds when we started the investigation and it was given serious consideration by the police in their work on the case as well as by the parents. On February 12, the day after Det. Tozzi came on the case, both children were interviewed by him. On being questioned, they denied they had anything to do with the occurrences. Det. Tozzi warned them that it would be a grave matter if they were found to be implicated in any way. The phenomena nevertheless continued, some of them even taking place when the detective was close by. On one of these occasions, when Det. Tozzi and James were alone in the cellar and a small metal horse fell to the floor close to the detective's feet (Event 38), Tozzi immediately accused James, even saying that he had seen the boy throw the horse (which Tozzi had not). He subjected James to a long and severe grilling, the boy all the time denying that he had had anything to do with this or any of the other incidents. During the afternoon and evening of Sunday, March 2, there were several disturbances. Before the arrival of Det. Tozzi that night, Mr. Herrmann told the writers that he himself had vigorously accused James, saying that the detective had proof that James had caused many of the events and that it was time for him to admit it without further delay. The father said that James, driven to tears, only said, "Dad, I had nothing to do with any of it." (Mrs. Herrmann, who was present when Mr. Herrmann told us about this, said she did not approve the way her husband treated the boy on this occasion.) When Tozzi arrived, "James was sitting at the dining room table crying, Lucille was in the kitchen crying, and Mr. Herrmann was trying to bring some order to the house, as the complainant [Mrs. Herrmann] was also crying and on the verge of hysteria. At this time, the complainant and the two children went to the Liguoris' home to spend the night as they were afraid to sleep in their home. . . ."

(a) Simple Tricks. The events clearly centered around James

rather than Lucille (or any other member of the family), so if the incidents were fraudulently produced, he would be the most likely culprit. James is an intelligent and likeable boy. He seems also to be frank and honest. However, let us assume that this covers a hardened core which enabled him to stand up to the questioning the detective and his father subjected him to and to continue his destructive activities. Let us also assume the existence of some abnormality which made him direct these activities against his own possessions as well as those of his parents. James's or Lucille's possible complicity cannot be ruled out in a number of instances. These consist of the disturbances which occurred when they were alone in the house (Events 7-11); when James was alone in the room in which the occurrences took place (Events 27-30, 42, 47, 48, 50, 52, 56, 57, 63); when he is reported to have been elsewhere but when this could not be corroborated by others (Events 34, 61, 62); when the effect could have been staged by James alone (Event 60) or jointly with Lucille (Event 33); when the position of the children at the time of the occurrence was not recorded (Events 1-5) or not known because there was no way of determining with sufficient accuracy when the disturbance had taken place (Events 21-24, 26, 31, 41, 54, 55); and when the incident consisted only of a noise (Events 46, 65, 66).

There is another category of disturbances which are more difficult to accommodate by the pranks theory. These are the occurrences which happened while a third person was actually observing the object that had been disturbed and when the location of James or Lucille was such that apparently neither could have been in bodily contact with this object. However, even some of these phenomena, on close investigation, reveal an opportunity for fraud which an audacious trickster might have taken advantage of—of course with very great risks of being found out. These are the events when some other person was in the same room as James when the incident took place (Events 36, 38, 39) or observed the disturbance from elsewhere (Events 35, 45, 59), but was not actually looking at James or at the object when its movement began. In a similar category belong the cases when James was known to be in another room prior to and after the occurrence (Events 32, 40, 44, 53, 59, 64), but

when he could conceivably have brought it about without detection by moving noiselessly and rapidly up to the object in question, upsetting it, and then returning to his former location.

However, 17 of the events described in the previous section cannot, if correctly reported, be so explained. For in each of these cases, the position of the children at the time of the disturbance was known to some other person to be such that they definitely could not have thrown, pushed, or similarly upset the object in question. In some of the cases, James was actually observed at the time of the occurrence and the object itself was seen when its movement began.

(b) Skilled Magic. It may be proposed that those disturbances which cannot be attributed to ordinary prankishness might have been produced by means of skilled magic. We ascertained that the performance of magic is not known to be among James's hobbies, and it is improbable that a boy would be interested in magic without having the fact become known. But on the remote assumption that James might have learned magic in secret, could he have produced in this way the effects which are not explainable as unskilled tricks?

The occurrences can be divided into two categories: the "bottle poppings" and the displacements of furniture and household objects. It has been proposed that the former might involve the application of some chemical knowledge and the latter, mechanical skills utilizing undetected devices. Let us discuss the two categories of events in the light of these suggestions.

The "Bottle Poppings": Because the occurrences at the beginning of the case primarily involved the opening and spilling of screw-top bottles, the case became known as the "bottle-popping" mystery. There were 23 such incidents, seven of which we discussed in the previous sections (Events 12-17, 67). It had been suggested that the effects observed in the opening of the bottles when no one was present were not beyond the skills acquired in science-club chemistry.[2] The implication was that the bottles could have been opened

[2] James belonged to a club in his school called the Science Club. The club dissolved after three meetings, none of which were devoted to chemical or other experiments. James is not known to have carried out such experiments by himself or to have been interested in this subject.

by pressure generated chemically or physically in a way that left no trace and therefore was not detectable in the subsequent analyses in the police laboratory (see below). Whether a hypothesis of this sort is justified seemed to us a point worthy of investigation, and we accordingly tested the effect of generating pressure inside screw-top bottles by converting carbon dioxide in its solid state ("dry ice") to gas. We discovered that when the top was left loose, the pressure simply escaped with a low, hissing noise but without removing the cap. When the cap was screwed on as tightly as possible by hand, the pressure increased until it forced its way out around the threads but without perceptibly loosening the cap. When we tightened the cover mechanically, we were successful in exploding a bottle of relatively thin glass, but the cap remained on the broken top of the bottle. Such an effect was never observed in connection with the bottles that lost their caps in the Herrmann household. When we used a Clorox bottle of thick glass, even tightening the cover mechanically produced neither an explosion nor perceptible unscrewing. When the pressure built up sufficiently, the gas escaped around the cap.[3] It is evident, of course, that with a different method of sealing, an explosion could be made to occur. But the relevant point in the present context is that pressure does not cause the tops to unscrew and come completely off, and this is true whether they are put on loosely, firmly by hand, or with mechanical force. We found that it made no difference if the threads were well lubricated with machine oil.

Displacements of Furniture and Household Objects: Let us now turn to a consideration of the skilled magic theory in relation to some of the incidents we described earlier involving the movement of objects. Every one of these occurrences could have been brought about by mechanical devices. The question is whether the installation and operation of such devices could have remained undetected. It is conceivable that James might have caused the Clorox bottle to jump out of its box and break on the floor (Event 6) by pulling a string tied to the bottle and hooked over a clothes line or nail in the ceiling. (We might speculate that he operated this string when

[3] Millions of housewives who have done pressure canning in glass jars know that pressure escapes from firmly closed lids without causing them to unscrew.

he pulled the clothes in front of his mother to protect her, as he said, from the glass and liquid.) The other disturbances we described earlier are not so easy to account for in this way. For instance, we find it very difficult to imagine how James could have caused the two bottles to move in opposite directions by threads or some other device when his father was standing close by watching him (Events 18 and 19) and how he could have made the figurine fly off the end table when Miss Murtha was in the room looking at him (Event 25).

We are also at a loss to explain how, by means of strings or an easily concealed device, James could have caused the 16-inch statue of the Virgin Mary (Event 49) to hit the dresser in the way it did while he was in another room and how he could have caused the figurine to fly across the living room when he was in the hallway with his mother and sister (Event 37). In these three figurine cases we should also have to explain how the magical device could have generated the speed or force displayed. The figurine Miss Murtha saw moved so rapidly that it appeared as a "small white feather." The Virgin Mary statue left deep marks on the mirror frame, and one of the other figurines heavily scarred the secretary when it shattered against it.

To get an estimate of the force involved in this last occurrence, the authors hurled crockery against wood comparable to that of which the secretary is made. We had to use all our strength to produce similar indentations. It is difficult to conceive of how James could have installed an undiscovered device to propel the figurine horizontally with such force when he was not in the room. Tozzi reached the front door immediately after this occurrence, so there was little chance for James to conceal a device before the detective arrived on the scene. It is as difficult to see how he could have installed the mechanism in the first place. It will be remembered that the figurine had flown against the secretary earlier in the evening, at 7:55 (Event 34), when Tozzi was in the basement. The detective replaced it on the end table and remained in the living room until about 9:30 while James was sitting at the dining room table doing his homework. James is reported to have remained in the dining room until 9:45, when the family sought shelter in

the hallway. It would therefore seem that he had no opportunity to prepare the complicated mechanism necessary to crash the figurine the second time. Similarly, with regard to the other incidents we discussed earlier, the opportunity for James (or anyone else) to prepare a trick, using a hidden device which could then have been concealed, was limited by the presence in the house of other members of the family and by visitors eager to detect any tangible clue to the disturbances.[4]

The Family Hoax Hypothesis. The fraud hypothesis would become easier to accept if we could suppose that the other members of the family were acting as James's accomplices. We could then simply assume that the disturbances reported by the Herrmanns, such as the simultaneous movement of the two bottles in different directions, never occurred and that the various effects which the police and others observed had been staged. This leaves only those occurrences to be explained which took place while Patrolman Hughes, Miss Murtha, and the writers (the bleach bottle incident) were in the house. But, unless Miss Murtha is disqualified for being a relative of the Herrmanns, these three events seem as difficult to explain now as they were on the supposition that James contrived them himself by magical devices.

There are other considerations which make the family hoax explanation an unsatisfactory one. The Herrmanns would seem to have been inviting unnecessary trouble and running grave risks by asking the police and other investigators into their home and then staging the disturbances right under the noses of these visitors. A member of the Seventh Precinct Force was in the house at the time six of the disturbances took place, but the police investigations and interviews failed to reveal anything suspicious. Similarly, Mr. Kahn and Mr. Gold did not uncover any evidence that the 10 dis-

[4] Some parapsychologists have endorsed the opinion, based on newspaper reports, that James produced the disturbances fraudulently by himself (though the press accounts, in point of fact, never contained evidence of fraud). Before the scientific investigation of the case started, one of these parapsychologists expressed this opinion and indicated that he did not consider the case worth investigating. However, he later made a short visit to the Herrmann home and, though uncovering no evidence of fraud, repeated this opinion in print. His report, based mainly on accounts in the popular press, contains serious inaccuracies about the occurrences and even a curious bungling of the floor plan of the Herrmann house.

turbances which happened while either one of them was present had been fraudulently produced. Both these reporters appeared to be cautious and alert observers. They seemed skeptical about a parapsychological interpretation and apparently entered the case with the expectation of finding another explanation. Likewise, the numerous interviews and visits by others seeking information on the case have, to our knowledge, not unearthed anything suspicious.

The police did not use finger-printing methods in this investigation. They considered it would not have been possible to establish guilt within the family by this method since the objects disturbed were in constant use. However, on February 19, five previously disturbed bottles, whose contents had been analyzed at the police laboratory, were dusted with fluorescent powder without the knowledge of anyone outside the police department and were replaced in the original positions. Det. Tozzi told the family that he wanted to see if anything would again happen to these bottles, and he instructed each person not to touch them. He thereafter carried in his car a special lamp by means of which the fluorescent powder could be detected on the hands of any member of the family, but none of these bottles ever spilled again.

The educational background of the parents, their professions, and the position of the family in the community reveal no motive for a joint hoax. Mrs. Herrmann, age 38, is a registered nurse who held a supervisory position in a large hospital until the time of her marriage. Mr. Herrmann, age 43, an alumnus of Fordham University, is the interlines representative of Air France in New York City. He saw action in the Pacific during World War II as a sergeant in the Marine Corps and is a member of the Auxiliary Police of Seaford. The family are Catholic, and they take an active interest in Church and school affairs. The children attend public school in Seaford.

The authors have each spent ten days with the Herrmann family under circumstances which we feel provided us with an intimate acquaintance with all its members, and we are personally unable to accept the "family hoax" hypothesis as a reasonable one. The family seemed greatly upset by the destruction of their belongings. They also expressed concern that the disturbances might cause injury

to someone. In fact, they moved to the homes of neighbors and relatives on four occasions, staying away from their own house for a total of six nights during the period of the disturbances.

Some of the incidents involved religious objects (the Virgin Mary statue and the holy water bottles). Wilful destruction and interference with these would amount to desecration and would constitute a serious religious offence. It seems unlikely that a family as devout as the Herrmanns would be party to such sacrilege.

On March 6, when the coffee table, a new and prized possession, turned upside down and was damaged, Det. Tozzi and Sgt. Reddy found Mrs. Herrmann "very upset over the occurrence. The complainant was crying the whole time interviewed by the writer [Det. Tozzi] and stated that she is ready to try anything to stop this disturbance. She doesn't believe in any supernatural powers but stated that if this is not stopped she will even be ready to try a medium spiritualist." Later that day, Det. Tozzi called the St. William the Abbot Rectory with the request that the Bishop be asked if it was possible to have the rite of exorcism carried out.

This was not a laboratory case, and it is not possible to come to the kind of conclusion which we can reach from a piece of research conducted under rigidly controlled conditions. However, the material on hand does allow us to state that the fraud hypothesis is not supported by the evidence collected by the police, the writers, and other observers. No clues have been found indicating either simple or skilled trickery, and some of the events which took place in the Herrmann home cannot be so explained even assuming that the necessary skills and motives for trickery existed. But, as far as can be determined, there were no motives for a family hoax and no evidence that James possessed the skills to carry out some of the complex occurrences.

The Psychological Aberration Hypothesis

Group hallucinations might explain the few noises not associated with physical effects, but not the disturbances of objects. Were these latter, then, produced in some personality state involving loss of consciousness and amnesia for the deeds? Such a hypothesis would rest on a purely speculative basis, for there is nothing in the history of abnormal psychology to suggest that the four mem-

bers of a family could simultaneously undergo such sudden and complete shifts in personality. Furthermore, the police and other visitors, including the writers, would have had to fall under the spell, perhaps even have helped in the staging of the incident, only later to invent some convenient dramatization. In our judgment, the psychological aberration hypothesis does not at the present time merit serious consideration.

Physical Cause Hypothesis

Throughout their investigation the police hoped to find a physical cause underlying the disturbances and to bring them to an end by removing this cause. Det. Tozzi, together with his superiors and colleagues, went to considerable effort in the attempt to unearth the assumed physical cause. Some of the investigations and consultations which had this aim are briefly described below.

The police first thought that the disturbances might be due to high frequency radio waves. A person with a radio transmitter license living close by was interviewed on February 11, but was found not to have used his set for several years.

The Long Island Lighting Company was then contacted and on February 13 installed an oscillograph in the cellar where it was left for one day. It was placed there again on March 7 and remained in the cellar until the end of the disturbances. No unusual vibrations were associated with the three occurrences which took place during this period. The last of these was the bleach bottle event in the same room as the oscillograph.

On February 13, five of the bottles which had lost their caps and spilled part of the contents were taken to the police laboratory in Mineola. They were found to contain no foreign matter.

The Long Island Lighting Company returned on February 17 to check the wiring, fuse panels, and ground wires. Everything was found to be in order.

On February 20, Det. Tozzi checked all outlets and turned the TV and oilburner on and off to see if they were connected with the occurrences. He also checked fuse boxes, water leaders, ground connections, and electrical insulations in the attic and elsewhere.

The next day a Mrs. Connolly phoned Tozzi saying that there

had been similar occurrences in her house which stopped when a chimney cap was installed to exclude down-drafts. After consultation with the Building Inspector of Hempstead and several others, Det. Tozzi arranged for Mr. Herrmann to purchase a turbine chimney cap and helped to install it.

An electrician checked the house wiring on February 22 for possible vibrations.

On February 24, a Catholic priest who is also an engineer was asked by Det. Tozzi whether in his opinion there might be a physical cause not yet investigated. He did not think so and said the disturbances might not be caused by natural means. (An inquiry was also made about the rites of exorcism and it was learned that permission must be given by a bishop. Det. Tozzi was told that exorcism is generally only used when church property is desecrated. Moreover, the rite is generally used on one person who is allegedly possessed by evil and not in a case of this kind.)

On the same day Det. Tozzi and Mr. Herrmann removed the storm windows in the cellar on the possibility that there was not enough circulation of air in the house.

The Seaford Fire Department checked a well in front of the house on February 25. There has been no radical change in the water level in the past five years.

On February 26, maps were received from the Town of Hempstead Engineers Office showing this area before the house had been built. No water or streams were shown.

On the same day, an R.C.A. test truck and crew tested for radio frequencies outside the house. Nothing unusual was discovered.

An inspection was also made by the Town of Hempstead Building Department which found the house to be structurally sound, showing only normal settling cracks in the basement floor.

On February 28, a conference was held at Adelphi College with members of the science departments by Capt. Lada, Sgt. Reddy, and Det. Tozzi for any ideas on the disturbances. No suggestions were offered.

A professor of engineering from Cooper Union, as well as a structural engineer, a civil engineer, and an electrical engineer from

the Nassau County Society of Professional Engineers visited the police station and the Herrmann home on March 1 to try to determine the cause for the disturbances. Their examination of the house did not reveal anything.

On March 3, Mitchell Airfield was contacted for a list of planes leaving on the runway facing the Herrmann house and for their departure times. This information was obtained on March 5, but no correlations were found between the disturbances and checking times or flight directions.

The TV antenna was removed from the chimney on March 4 and a small crack was closed between the concrete foundation and the main base of the house to eliminate possible vibrations.

On March 5, the plumbing was checked and a slight vibration was detected from the circulator when this was running. The vibration was carried by a hot water main to one of the main beams. However, one of the neighboring houses was checked for comparison and the vibrations there were found to be much greater.

Even without these investigations and consultations involving professional physicists and engineers, one could have safely concluded that the causes underlying these disturbances were not explainable as due to energy acting without some guiding intelligence. The selection of objects was too precisely localized for such causes as drafts of air, vibrations, magnetic forces, etc. to have brought the disturbances about. For instance, how are we to account for the fact that one figurine flew from an end table while another only a few inches away was left undisturbed? How, again, can the "bottle poppings" be explained? Most of the bottles had screw caps, requiring from about one-half a rotation of the cap (for the bottles with cleansing liquids) to nearly four (for Mrs. Herrmann's toilet water).

Instead of evidence pointing to some undiscovered physical causes, the disturbances contained several clues indicating their psychological origin. A later paper will, as already stated, deal in detail with the psychological aspects of the case. However, as the best evidence against a purely physical force would be the demonstration of a parapsychical one, it may be well to outline briefly some of the findings which we shall later present.

Nothing ever happened while all the family were out of the house, when they were fast asleep, or while the children were both at school. In all but one case James was known to be in the house during the disturbances, and he may have been home during that one as well (Event 55). Other members of the family were frequently absent. Also, the disturbances took place nearer to James, on the average, than to any other member of the family.

The occurrences were not randomly distributed in the house (see Figs. 1 and 2) and some sort of motivational pattern can be discerned in the kinds of objects that were disturbed.

Moreover, the Seaford phenomena show a striking conformity to the general pattern established by earlier cases: the unusual noises and unexplained happenings centered around someone near the age of adolescence. At the same time, this case, as is also the rule with many other such occurrences, had its own distinctive characteristics, the most pronounced of which is the "bottle poppings" where screwtop bottles lost their caps with a loud noise and spilled.

The detection of such psychological correlations shows that we are not dealing here with a kind of impersonal physical force which perhaps some time in the future will fall within the scope of physics although its operation is not now understood. If the Seaford disturbances are not fraudulent—and no evidence of fraud was found—they clearly make a proper claim upon the interest of parapsychologists.

It must be kept in mind that the investigations as conducted to date rank as exploratory rather than as conclusive. There was no disturbance which the investigators could observe under conditions as good as those that can be produced in the laboratory. However free from any suggestion of fraud or known physical explanation the case as a whole may be, the investigation is largely based on testimony rather than on first-hand observations under controlled experimental conditions. Thus this is an inconclusive report concerning what took place in the Seaford case. It would be an improper application of scientific method to attempt to go further on the basis of such material. But science consists of more than reaching conclusions. One of its important functions is the appraisal of problems that might justify further study. The investigation of

data bearing upon a problem that needs clarification is an indispensable link in the chain of scientific progress. The observations which suggest the occurrence of RSPK present such a problem, and the Seaford case may come closer than any other in supplying the necessary link.

The present case may advance the study of PK both directly and indirectly. Indirectly, it may have its greatest value from the widespread publicity it has given to the parapsychological interest in such happenings. Because of this, it may help to bring future cases to the attention of interested research workers while the disturbances are still taking place, and hence allow first-hand studies of apparent RSPK cases during their most active phase.

Directly, it may advance our understanding of the *modus operandi* of PK. If the disturbances are examples of RSPK, a study of the setting in which they occurred and the particular form they took may give us valuable clues about the psychological factors which triggered these outbursts of PK. With sufficient knowledge of the conditions producing RSPK it may become possible to predict the occurrences and even to control them. Thus one hopes to advance from the spontaneous towards the stage of experimental research. In our second paper we shall analyze the disturbances for clues about the causes which underlie them.[8]

APPENDIX

A Complete List of the Disturbances

On Monday, February 3, 1958, James came home from school at 3:30 p.m. He went to his room where he found
1 that a ceramic doll and a ship model on his dresser were broken. Apparently the doll had smashed against the ship. Lucille and Mrs. Herrmann were also home that afternoon.

Mrs. Herrmann checked in the other rooms and dis-
2 covered a small holy water bottle on her dresser on its side with the cap unscrewed and the contents spilled. No noises were heard in connection with these three events, but noises were heard during the following 45 minutes or so when bottles opened and spilled in different parts of the house.

[8] See pages 123 and 124.

3, 4 In the bathroom cabinet under the sink two bottles were found with the caps unscrewed and the contents spilled. In
5 the kitchen there was a bottle of starch in the cabinet under the sink with the cap unscrewed and the contents spilled, and in the cellar directly below the kitchen a half-gallon
6 bottle of bleach jumped from a cardboard box and broke when it hit the floor. This happened while Mrs. Herrmann and James were approaching the box and were about six feet away.

On Thursday, February 6, between 3:30 and 4:30 p.m., when only Lucille and James were at home, noises were again
7, 8 heard, and two bottles in the bathroom cabinet again lost
9 their caps and fell over and spilled. Another bottle of bleach in the cellar jumped out of an eight-inch box and
10 broke on the cement floor, and a bottle of wine in the linen cupboard upstairs was found opened and spilled.

On Friday, February 7, between 3:30 and 4:15 p.m.,
11 only James was at home when a bottle of ammonia in the cabinet under the kitchen sink lost its screw cap and spilled.

On Sunday, February 9, at 10:15 a.m. the whole family was in the dining room when noises were heard to come from different rooms. On checking, it was found that a holy
12 water bottle on Mr. Herrmann's dresser in the master bedroom had its cap unscrewed and the contents spilled. A new
13 bottle of toilet water on Mrs. Herrmann's dresser had also fallen, lost its screw cap and rubber stopper, and the con-
14 tents were spilled. At the same time a bottle of shampoo
15 and a bottle of Kaopectate in the bathroom cabinet lost their
16 screw caps, fell over, and were spilling. The starch in the kitchen was also opened and spilled again and a new
17 gallon can of paint thinner in the cellar had opened, fallen over, and was spilling on the floor.

At about 10:30 a.m., when Mr. Herrmann was standing in the doorway of the bathroom watching James brush his
18, 19 teeth, he saw a Kaopectate bottle and a shampoo bottle,

which were placed on top of the vanity table, move in different directions and fall off the table.

The police department was called, and while Patrolman Hughes was with the whole family in the living room, a
20 sound was heard from the bathroom. On inspection a bottle on the vanity table was found turned over.

On Tuesday, February 11, between 3:30 and 5:25 p.m., when James, Lucille, and Mrs. Herrmann were home, an
21 atomizer bottle of perfume on Lucille's dresser opened, fell on its side, and spilled the contents.

22 At the same time, the paint thinner in the cellar again lost its cap and a small amount of the contents was spilled.

On Thursday, February 13, between 6:45 and 7:25 a.m., when James, Lucille, and Mrs Herrmann were at home (Mr.
23 Herrmann leaving at 7:10), the holy water bottle on Mr. Herrmann's dresser had again come open, fallen, and spilled.

On Saturday, February 15, at 5:50 p.m., when the whole family was home, James, Lucille and Mr. Herrmann dis-
24 covered that the holy water bottle on Mr. Herrmann's dresser was open and the contents spilled. Lucille cleaned the water up and found it warm. Mr. Herrmann picked up a perfume bottle on his wife's dresser and found it warm to the touch.

At 7:40 p.m. James, Lucille, and Miss Marie Murtha, Mr. Herrmann's cousin, were in the living room, and Mr. and Mrs. Herrmann were in other parts of the house. Miss
25 Murtha saw a porcelain figurine leave its place on an end table and fly about two feet into the room.

On Sunday, February 16, at 6:10 p.m., when James and Lucille were in the living room and Mr. Herrmann was out-
26 side shovelling snow, Mrs. Herrmann found a perfume bottle on her bedroom dresser opened and the contents spilling out (this bottle was not warm to the touch).

At 9:30 p.m. when both children were asleep in their rooms, and Mr. and Mrs. Herrmann also were home, the former heard a noise in the boy's bedroom and discovered

27 that a small plastic angel on the boy's night table had traveled across the corner of the room to the dresser, broken its wing, and knocked down a ceramic Davy Crockett and a small plastic ship model.

At 9:45 p.m., when Mr. Herrmann was speaking to Det. Tozzi on the phone, they both heard a loud noise. Mr.
28 Herrmann found that a globe of the world on a bookshelf in James's room had fallen to the floor.

At 10:00 p.m. when the children were still in bed, Mr. and Mrs. Herrmann were in the hall near James's room when another noise was heard. Both went into the boy's room
29 and found the lamp on the night table on the floor with the bulb broken. Mr. Herrmann picked James up and carried him to the master bedroom where he was put to bed.

At 10:30 p.m. Mrs. Herrmann was in the hall directly in front of the master bedroom, and Mr. Herrmann was on the phone talking to Sgt. McConnell. Another loud noise
30 was heard and the night table next to the bed in the master bedroom where the boy was sleeping was found to have turned over.

On Monday, February 17, between 7:50 and 8:00 a.m., when James was in the bathroom, Lucille in her bedroom, and Mr. and Mrs. Herrmann in the dining room, Mrs. Herrmann, when she happened to look into the living room,
31 found the porcelain figure again on the floor about two feet away from the table it had stood on.

On Wednesday, February 19, at 8:55 p.m., when James was in his bedroom, Lucille in the bathroom, Mrs. Herrmann in the kitchen, and Mr. Herrmann and Mr. Liguori, a neighbor, in the dining room, a noise was heard in the living room. On investigating, Mr. Herrmann and Mr. Liguori found
32 that the figurine on the end table was again on the floor about two feet away.

On Thursday, February 20, at 6:55 p.m., when James was in the bathroom, Lucille in the finished part of the

basement, and Mrs. Herrmann in the kitchen, a loud pop
33 was heard from the cellar and Lucille found that a bottle of bleach had lost its screw cap and was lying against the side of the box it was in, with parts of the contents spilled.

At 7:55 p.m., when James was in the dining room and Lucille, Mrs. Herrmann, and Det. Tozzi in the cellar, a loud noise was heard upstairs and it was found that another
34 porcelain figurine (male) had left the end table and hit the secretary which is about ten feet away. It broke an arm and left a depression in the wood.

At 9:27 p.m., when James was sitting at the west end of the dining room table and Lucille and Mrs. Herrmann were in the living room together with Det. Tozzi, who was standing by the doorway to the dining room within view of the
35 table, a sugar bowl on the east end of the dining room table left its place, struck the floor in the doorway between the dining and living rooms, and broke close to the feet of the detective.

At 9:45 p.m., when James and Mrs. Herrmann were in the dining room and Lucille in her bedroom, a very loud
36 pop was heard. An ink bottle on the dining room table lost its screw cap and flew towards the front door, spilling its contents.

At 9:50 p.m., when James, Lucille, and Mrs. Herrmann were standing together in the hallway outside the bathroom, a loud noise was heard in the living room. It was found
37 that the male figurine had again left the end table and hit the secretary, and this time it was completely broken.

At 11:40 p.m., when James and Det. Tozzi were in the unfinished basement room and Lucille and Mrs. Herrmann
38 were in the living room, a small metal horse that had been standing on the shadow box by the cellar stairs struck the floor at Det. Tozzi's feet and broke.

On Sunday, February 23, at 3:00 p.m., James and Mrs. Herrmann were in the dining room, Lucille was in the living room, and Mr. Herrmann was outside the house when

39 a glass bowl center-piece left the dining room table and traveled some five feet, landing on the bottom shelf of the corner cabinet.

At 8:10 p.m., James was in his bedroom, Lucille in the bathroom, Mrs. Herrmann in the kitchen, and Mr. Herrmann and Mr. David Kahn of *Newsday* in the dining room when a loud crash was heard in the living room. It was found that
40 the female figurine which had stood on the end table had gone about ten feet, breaking to bits against the secretary.

At about this time, Mr. Herrmann and Mr. Kahn checked
41 the house and discovered that a lamp on Mrs. Herrmann's dresser had fallen over.

At 8:30 p.m., James, Lucille, and Mrs. Herrmann were in their bedrooms and Mr. Herrmann and Mr. Kahn were in the living room, when a loud noise was heard. It was
42 found that James's dresser had fallen over.

On Monday, February 24, at 4:40 p.m., both children were in the cellar (Lucille sitting at the table and James walking up the stairs). Mrs. Herrmann was in the kitchen, and Mr. Herrmann and Mr. Kahn were in the dining room. A loud crash was heard from the boy's room, and it was
43 found that the dresser had again fallen over.

At 8:30 p.m., James and Lucille were in their rooms, Mrs. Herrmann in the cellar, and Mr. Kahn in the dining room, when a noise was heard from the living room. A
44 ceramic ashtray which had stood on the coffee table was lying broken on the floor about four feet away.

At 9:00 p.m., both children were in bed, Mrs. Herrmann in the dining room, and Mr. Kahn in the living room, when
45 a globe of the world came bouncing out of the boy's room towards the chair Kahn was occupying.

At 9:15 p.m., the children were still in bed and Mrs. Herrmann and Kahn were in the living room when a sharp
46 crack was heard, but nothing could be found to have caused it.

At this time, Mr. Herrmann arrived home with Mr.

Zider, a physicist who had become interested in the case,
47 when a loud noise was heard from James's room. The book-
case in the corner of the room was found wedged, upside
down, between the radiator by the wall and the bed.

Later during the night, at 12:08 a.m., the children were still in their bedrooms, Mrs. Herrmann was in the bathroom, and Mr. Herrmann, Mr. Kahn, Det. Tozzi, and Mr. Zider
48 were outside the house when a picture over the boy's bed fell to the floor in the middle of the room.

On Tuesday, February 25, at 7:20 a.m., the children were in their rooms, Mrs. Herrmann was in the kitchen, and Mr. Herrmann had gone to work. A loud crash was heard,
49 and a figure of the Virgin Mary on Mr. Herrmann's dresser was found on the floor by Mrs. Herrmann's dresser. It had knocked over a picture as it left Mr. Herrmann's dresser and had scarred the mirror frame on the other dresser when it hit. As it fell to the floor it knocked over a lamp, breaking the bulb, and was itself damaged.

At 5:55 p.m., when James was in the cellar, Lucille in the front hallway, and Mrs. Herrmann in the dining room, a loud noise was heard from the cellar. The children's
50 phonograph, which had stood on a metal table at one wall, had traveled across the room, hit the stairway shadow box, and fallen to the floor with the case broken.

At 7:30 p.m., when James and Mr. Herrmann were in the dining room, Lucille and Mrs. Herrmann in the dining room—kitchen area, and Mr. Kahn, Sgt. McConnell, and one of the writers (J.G.P.) in the cellar, a noise was heard,
51 and the lamp on Mrs. Herrmann's dresser was found turned over.

At 7:34 p.m., when James was still at the table, Lucille at the front door, and all others in the master bedroom or
52 just outside it, a plate of bread which had been on the dining room table fell to the floor and landed near the corner cabinet.

On Sunday, March 2, at 4:40 p.m., when James was

in the bathroom, Lucille in the living room, Mr. and Mrs. Herrmann in the cellar with a friend, Mr. Connolly, and two of Connollys' children, and other visitors were in the living room (Mr. and Mrs. D. Herrmann, their daughter,
53 Mr. and Mrs. Zito, and Connolly's other child) the glass bowl center-piece, which had been on the telephone bench at the other end of the dining room, was seen by Mr. Zito to fall to the floor near the dining room doorway.

At 4:50 p.m., Mr. Herrmann checked the rest of the
54 house and the lamp on Mrs. Herrmann's bedroom dresser was again found turned over. It was thought this event had happened at 4.40 p.m.

At 7:30 p.m., James, Mr. Herrmann, and Mr. Herrmann's brother went to the store. Just prior to this, Mrs. Herrmann had straightened up the house. On returning
55 from the store, James and Mr. Herrmann found that the globe of the world from the bookcase in the boy's room was in the center of his bed. Lucille, Mrs. D. Herrmann, and her daughter were also in the house.

At 9:45 p.m., James and Lucille were in bed, Mrs. Herrmann in the kitchen, and Mr. Herrmann in the dining room when a noise was heard in the vicinity of the boy's room,
56 and it was found that the picture on the wall over his bed had again fallen to the floor on the other side of the bed.

At 10:10, James and Lucille were still in bed, Mrs. Herrmann was in the kitchen, and Mr. Herrmann was in the living room when a loud crash was heard. Mr. Herrmann ran immediately into the boy's room and, as he got to the
58 door, saw the night table by the bed turn and fall over.
57 Apparently the first crash was due to the brass lamp on the table falling to the floor. The globe around the bulb was broken and the base was badly bent as if the table had fallen on it.

On Tuesday, March 4, at 4:50 p.m., James was in the cellar, Mrs. Herrmann was in the living room, and Mr. John Gold of the *London Evening News* was standing in the

hallway between the living room and dining room facing the
59 living room when he saw a flash bulb, which had been on the end table by the couch, fly through the air and strike the wall at the other end of the room. No one else was at home at this time.

At 5:00 p.m., James was in the bathroom and Mrs. Herrmann and Gold in the living room when a loud bang, followed shortly by three more bangs, were heard, and the
60 bleach bottle in the box in the cellar was found on its side with the top off.

At 5:10 p.m., James was still in the bathroom and Mrs. Herrmann and Gold in the cellar when a loud crash was heard
61 upstairs, and it was found that the glass bowl center-piece on the dining room table had gone into the corner cabinet, damaging the wood frame.

At 5:12 p.m., James had gone to the cellar and Mrs. Herrmann and Gold were in the dining room when a loud
62 crash was heard. It was found that a bookcase in the unfinished part of the basement had fallen over.

On Wednesday, March 5, at 10:20 p.m., when both children were in bed and Mr. and Mrs. Herrmann and Mr. Zider were in the kitchen, a noise was heard from the hall,
63 and the globe from James's room was found outside his door.

On Thursday, March 6, at 7:20 a.m., when both children were in their bedrooms and Mrs. Herrmann was in the kitchen (Mr. Herrmann having left), a loud noise was heard
64 from the living room and it was found that the coffee table in front of the sofa had turned over.

On Sunday, March 9, at 9:40 p.m., when both children were in bed, Mrs. Herrmann in the kitchen, Mr. Herrmann and W.G.R. in the dining room, and J.G.P. in the living
65 room, a noise (a thump) was heard from the vicinity of James's room.

66 At 9:45 p.m., a louder thump was heard from the vicinity of James's room.

On Monday, March 10, at 8:14 p.m., when James was in the bathroom, Lucille in her room, Mrs. Herrmann in the master bedroom, J.G.P. in the living room, and W.G.R. in the dining room (Mr. Herrmann was not at home), a loud
67 thump was heard, and the bleach bottle in the cellar was found with its cap off and the bottle leaning on its side against the box it was in.

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When our report was in galley proof, one aspect of the psychological study of the case reached a stage which requires that it be mentioned in the present paper.

At the end of March, after our return from Seaford, we wrote Mr. Herrmann that it would help the investigation and also be in the best interests of the family if they submitted themselves to a polygraph ("lie detector") test. Mr. and Mrs. Herrmann declined because of reluctance to subject the children to this procedure. At the end of May we again approached Mr. Herrmann on this matter and persuaded him to take the test himself. The necessary contacts were made for the program to be carried out in New York. However, various circumstances prevented it from being completed for the next five weeks. At the end of this time J.G.P. visited the home and discussed the polygraph method with both Mr. and Mrs. Herrmann, and they agreed that the whole family should be tested. Afterwards Mr. Herrmann contacted J.G.P and stated that the children had objected to the test and he requested that the appointment be cancelled. He also declined to proceed on the basis of the earlier plan that he alone should undergo the polygraph interview. It was explained to Mr. Herrmann that we would have to report this development as an aspect of the evidence. He said that he realized this, but that the investigation had to come to an end and this was where they chose to let it rest.

We draw no conclusion from these facts. However, this development makes it difficult to justify publishing our proposed psychological analyses of the 67 incidents on the assumption that they were all of parapsychological interest. We shall therefore postpone a further report on the case until such time as this issue can be further clarified.

The analyses intended for the second paper, including a comprehensive personality study of the two children, are on file in the Parapsychology Laboratory, where they may be examined by interested investigators.[6]

[6] We wish to express our appreciation for the encouragement and generous assistance of the late Mr. Frank A. Seckler regarding the plans to use the polygraph test; to his associate, Mr. A. Valerioti of Personnel Research, Inc., New York City, who volunteered his services for the completion of this program after Mr. Seckler's death; and to Dr. George Klein and Dr. I. H. Paul of the Research Center for Mental Health, New York University, for carrying out the personality tests of the children and for helping to arrange the polygraph interviews.

ESP CARD TESTS OF COLLEGE STUDENTS WITH AND WITHOUT HYPNOSIS

By JARL FAHLER[1] AND REMI J. CADORET

ABSTRACT: Previous work carried out by one of the authors in Finland gave significantly high scores on ESP card tests when the subjects were under hypnosis and only chance results when they were in the waking state. The research reported here was work carried out along the same lines at the Parapsychology Laboratory of Duke University.

After some exploratory tests (Section A), two experimental series were carried out (Sections B and C). For these, a clairvoyance procedure was used in which the subject called ESP cards screened from his view. In half the runs the subject was hypnotized and in half he was in the waking state. Section C was arranged so that each subject made the same number of runs in each session (three under hypnosis and three in the waking state). The total number of runs in this section was set at 240 at the outset, and the two authors were always present as co-experimenters.

In both Sections B and C, the hypnotic state gave highly significant scores and the waking state was at the chance level. Out of 19 sessions in Section B in which the waking and hypnosis scores were not the same, 16 were higher in hypnosis. In Section C, 30 out of 35 were higher in hypnosis. In both cases, the probability of such a result was highly significant.

There are strong indications, therefore, of a connection between higher scoring and hypnosis. But no definite interpretation can be made regarding the reason for this since the subjects may not have been equally well motivated in the waking state.—Ed.

INTRODUCTION

THE RESEARCH reported here is a continuation of earlier experiments by J. F. with ESP cards in Finland (2). In that work, tests were conducted with four selected adults in an attempt to get better ESP results when the subjects were under hypnosis than when they were in the waking state. On the strength of the findings of that investigation, it seemed safe to suggest that hypnosis might provide the experimenter with a way of helping the subject to concentrate his efforts upon the ESP task and to strengthen his interest in his performance. However, it was clear that there was still room for different opinions about the exact role of hypnosis in psi experiments with ESP cards.

After the experiments in Finland, J. F. was invited to spend some time in the Parapsychology Laboratory of Duke University

[1] J.F. took part in this investigation as William Bentley Fellow in Parapsychology.

for the purpose of doing further work along the same lines. The first objective of the American work was to see if the highly significant scoring obtained by hypnotized subjects in the Finnish experiment could be maintained in the new situation. An affirmative answer to this question would have great importance at the present stage of ESP research because of its possible relevance to the problem of reliably controlling psi performance.

General Procedure

The experiments presented in this paper were conducted in the Parapsychology Laboratory between the end of August, 1957, and the beginning of February, 1958. The subjects were college students who volunteered their services. Their volunteering for the tests and continuing to participate probably depended on numerous factors, such as their interest in psi and the social atmosphere set by the experimenters. The experiments can be divided into three sections which are roughly chronological, but with some overlapping within the total period covered by the work.

The aim of the first tests (Section A) was to see if successful ESP performance could be obtained in the experimental situation when informal test conditions were used. Most of this first work was done as GESP tests in which either the experimenter or a co-experimenter acted as "sender," or agent, and was in the same room with the subject. But there were also some tests for clairvoyance using either a BT or DT technique. No effort was made at this stage to test each subject with an equal number of runs in the waking state and in hypnosis. However, the results were impressive enough to justify going on to the more formal tests for clairvoyance subsequently introduced in Sections B and C. The results of Section A are presented as a background for this research and not as the basis for any conclusion.

Sections B and C represented two general advances beyond the exploratory conditions of Section A. In the first place all of the tests were for clairvoyance (either the BT or DT technique). In the second place, each subject was tested to the same extent in the waking state and under hypnosis within the same session. In section B, the number of runs varied from session to session, but they were always equally divided between the two conditions. In half of

the sessions hypnosis was used first and in the others it was used last. In Section C all sessions were of the same length: three runs in the waking state followed by three in hypnosis, or vice versa. Thus during both B and C, half of each subject's trials in each session were made in the waking state and half under hypnosis. The co-experimenter in Section B was sometimes an undergraduate and sometimes R.J.C. or another laboratory staff member. In Section C, the co-experimenter was always R.J.C. During the sessions of Section C the subjects were in a Faraday cage, and an electroencephalogram was taken in the attempt to find out if there is any relationship between ESP and changes in the alpha brain wave pattern. The results of the EEG investigation are not included here, but will be given in a later paper.

Test Methods and Conditions

Closed packs of the standard ESP cards were used for all the tests. Before each run, the pack was given five dovetailed shuffles followed by a cut. A detailed description of the conditions in the three sections follows:

Section A

This section consisted primarily of exploratory GESP tests designed to introduce the subjects to card-calling. The subject was screened from the cards although the agent remained in the same room with the subject. The experimenter recorded the subject's calls and, as soon as the run was finished, recorded the target order with the agent looking on. The agent in most cases was a university student. In some few sessions, when no agent was available, J. F. acted both as agent and as recorder of the calls and cards.

Tests for clairvoyance were done with the BT or the DT technique in which the cards were screened from the sight of the subject. In the majority of sessions, both an experimenter and a co-experimenter were present. Either the experimenter handled the cards while the co-experimenter recorded the subject's calls, or vice versa. When there was no co-experimenter, the experimenter handled the cards and recorded at the same time. At the end of the session, the card order was recorded and the hits were checked by the experimenter, with the subject (and the co-experimenter if there was one) observing.

In the BT tests, here and throughout the whole experiment, a special box was used to hold the cards during the run and to facilitate the one-by-one removal of the top cards from the pack as the calls progressed. The box was shallow and long enough to accommodate the shuffled pack in one end and the cards that had already been called in the other end. These two sections of the box were separated by a low, curved middle partition; and as each card on the top of the pack was called by the subject, it was removed and placed in position in the other section of the box by the experimenter. Each card was transferred by merely touching the back lightly with one finger and sliding it across the partition into the other section of the box. The use of this apparatus served two purposes: it facilitated the handling of the cards; and it provided assurance against sensory cues from the face of the card since there was no need to lift the cards at all in handling them.

Section B

The tests in Section B, which were all clairvoyance, were also carried out with the subject screened from the sight of the cards. Sometimes the experimenter recorded the subject's calls and the co-experimenter handled the cards; sometimes they exchanged roles. The co-experimenter on almost all occasions was an undergraduate student assistant, and since the same student was not available for all of the tests, several different co-experimenters were used. In most sessions, however, the co-experimenter was Mr. Charles Egerton. After each session, the experimenter, the co-experimenter, and the subject checked the hits.

Section C

In this section of the investigation, two members of the research staff were present at all times during the tests. The subject was inside the Faraday cage lying prone in a deck chair. J.F. was inside the cage with him. The other experimenter, R.J.C., who operated the EEG apparatus outside the cage, shuffled and cut a pack of ESP cards and placed them on a table or chair in the special open box previously described. The sides of this box were high enough so that, when it was at the same level as the subject's head, the subject could not see the backs of the cards even if his eyes were open.

(Since EEG records were taken concurrently with the subject's ESP calls, the subjects were kept in a prone position with their eyes closed.)

When the face-down pack was in the box ready to be used, R.J.C. handed the box to J.F. in the cage and the subject proceeded to go through the ESP run. As J.F. moved each card from the top of the pack to the second compartment of the box, he indicated to the subject, by saying "Now" or "Next," that the card was in position and he was ready to record the subject's call. When the run was completed, the box containing the target cards was passed out of the cage to R.J.C., who recorded the target order. He then reshuffled, cut, and returned the pack to the box for the next run. At the conclusion of the six runs of the session (three in the waking state and three in hypnosis, or vice versa), the target card order was given to J. F., who covered the call record for each run and recorded the target order on his record sheet with both R.J.C. and the subject witnessing. The hits were circled and the score was then counted for each run. This procedure was followed in all BT runs.

One subject made his calls with the DT method. In these tests, R.J.C. alone handled the cards, shuffling and cutting them for each run, placing them in the box used for the BT tests, and keeping the box somewhere out of sight of the subject. J.F., in the Faraday cage, recorded the subject's calls as usual, and the run of 25 trials was made without removing any of the cards from the top of the pack. At the conclusion of each run, R.J.C. recorded the target card order, both experimenters checked the hits, and R.J.C. reshuffled the cards for the next run. These DT tests, then, where even the experimenter did not see the backs of the cards, represent the most thoroughly controlled part of the experiment. As may be seen in Table 5, the hypnosis results of the subject who used the DT method were independently significant and were comparable in scoring level to the results of the other subjects with the BT method.

During all of these tests in which the EEG record was taken, the subject was in a prone position, as previously noted, and was required to make his calls softly and without overt movement in order that a good EEG record could be obtained. In both the waking and hypnotic states, the subject's eyes were closed, and during the hypnotic part of the session the room was partly darkened.

Results

Section A: Introductory and Exploratory

The total of 46 runs in hypnosis in the clairvoyance part of the experiment gave a deviation of +48, which, with a standard deviation of 13.56, corresponds to a significant critical ratio[2] of 3.54, as shown in Table 1. The tests in the waking state (46 runs) produced a deviation of +36 and a CR of 2.65, which is also significant. The hypnosis and waking parts together gave a deviation of +84. The standard deviation here is 19.18 and there is a highly significant CR of 4.38. The GESP part of the experiment is also shown in Table 1.

Table 1

GESP and Clairvoyance Results of Section A with Subjects in Waking and Hypnotic States

Method	Waking State				Hypnotic State			
	Runs	Hits	Dev.	CR	Runs	Hits	Dev.	CR
Clairvoyance.....	46	266	+36	2.65	46	278	+ 48	3.54
GESP.....	67	378	+43	2.63	102	638	+128	6.34

As already mentioned, no conclusions should be drawn from the results presented in Table 1, except that this exploratory work certainly justified the investigations in sections B and C, the results of which are presented in Tables 2-5.

Section B: Waking-Hypnosis Tests with Different Co-experimenters

The 105 runs in the hypnotic state gave a deviation of +118, which, with a standard deviation of 20.50, yields a highly significant CR of 5.76, as shown in Table 2. The tests in the waking state gave only chance results (a deviation of +6) although some of the subjects' individual results in the waking state may be of interest from the psi-missing point of view. (See Table 3.) Table 2 also shows the evaluation of the difference between the results in the waking and the hypnotic states (CR = 3.85).

[2] In this report, critical ratios have been given for those results that are significant with a probability of .01 or smaller. The probability value in every instance has not been given.

Table 2

CLAIRVOYANCE RESULTS OF SECTION B, WITH SUBJECTS IN WAKING AND HYPNOTIC STATES

States	Runs	Hits	Dev.	CR
Waking.....	105	531	+ 6	$CR_d = 3.85$
Hypnosis.....	105	643	+118	5.76

An examination of the data of Table 3 shows that the tendency for higher scores to occur in the hypnotic state is significant even when the session is taken as the statistical unit of observation. Out of 20 sessions for all subjects, there were 16 in which hypnosis gave higher scores than the waking state; one session in which they were equal; and only three in which the waking state gave the higher scores. A chi-square test of the 16-3 distribution where equality is expected gives $\chi^2 = 8.89$ (1 d.f.), $P = .003$.

Of interest and perhaps importance is the contrast between the hypnotic state and the waking state among the individual subjects. Table 3 shows that 8 of the 10 had higher scores in hypnosis than in the waking state. There were four sessions in the hypnosis section that were significantly positive and none in the waking section. The results of subject K.G. are especially noteworthy. In the waking state she made a significant negative total deviation of −24 in 17 runs (and a positive but insignificant total deviation of 9 in 17 runs in hypnosis). Also, the subject F.T. had a negative total deviation in her waking state runs, while her total results in hypnosis gave a significant positive deviation. All of the striking psi effects of the subjects are in the hypnotic state except for the impressive negative deviation by the subject K.G. in the waking state.

Section C: Confirmatory Tests with Two Laboratory Staff Experimenters

This part of the investigation was carried out with both J.F. and R.J.C. present. It was designed at the start to include 10 subjects. The plan was that the subjects should be tested in DT or BT clairvoyance (as each preferred) in four sessions, with six runs in each session. These six runs were divided into three waking runs

Table 3

SECTION B SCORES OF INDIVIDUAL SUBJECTS FOR EACH SESSION

SUBJECT	WAKING STATE				HYPNOTIC STATE			
	Runs	Hits	Dev.	CR	Runs	Hits	Dev.	CR
B. B.	5	31	6		5	37	12	2.69
	5	31	6		5	26	1	
	4	24	4		4	22	2	
Total	14	86	16		14	85	15	
H. B.	5	21	− 4		5	28	3	
K. G.	10	33	−17	2.69	10	55	5	
	4	17	− 3		4	19	− 1	
	3	11	− 4		3	20	5	
Total	17	61	−24	2.91	17	94	9	
S. H.	3	11	− 4		3	18	3	
A. L.	3	18	3		3	22	7	
H. L.	5	29	4		5	30	5	
M. M.	5	29	4		5	39	14	3.13
	3	17	2		3	20	5	
Total	8	46	6		8	59	19	3.36
L. O.	5	26	1		5	39	14	3.13
J. T.	5	34	9		5	38	13	2.91
F. T.	10	40	−10		10	61	11	
	10	54	4		10	60	10	
	5	26	1		5	26	1	
	5	24	− 1		5	27	2	
	5	29	4		5	33	8	
Total	35	173	− 2		35	207	32	2.70
S. W.	5	26	1		5	23	− 2	

	Hypnosis Higher	Waking State Higher
Sessions With Unequal Scores	16	3

$X^2 = 8.89$ (1 d.f.)
$P = .003$

and three runs in hypnosis. The section was designed for a total of 240 runs, but because of unforeseen circumstances it was not possible to complete four sessions with all subjects. Accordingly, the number of total runs was brought up to 240 by collecting more sessions from subjects who were willing to continue the tests. The results presented in Tables 4 and 5 consist of all the data obtained under the prescribed conditions.

The 120 runs in the hypnotic state gave a deviation of +187, which, with a standard deviation of 21.90, has a highly significant CR of 8.54. (See Table 4.) The tests in the waking state pro-

Table 4

CLAIRVOYANCE RESULTS OF SECTION C, WITH SUBJECTS IN WAKING AND HYPNOTIC STATES

States	Runs	Hits	Dev.	CR	
Waking.....	120	599	− 1		
Hypnosis.....	120	783	+187	8.54	$CR_d = 6.07$

duced only chance results (a deviation of −1), although some of the individual subjects' results as shown in Table 5 deserve further discussion.

In Section C, as in the foregoing part of the experiment, there is a strong tendency favoring the results in the hypnotic state. The difference between the results in the waking state and those in hypnosis has a CR of the difference of 6.07. But the more proper statistical basis of comparison is in terms of the session scores. There were 35 sessions in which the scores were not equal in hypnosis and in the waking state. In 30 of these, the hypnosis score was the higher. This distribution gives a chi square of 17.86 (1 d.f.) with $P = .00002$.

Perhaps one of the most interesting facts shown in Table 5 is the performance of subject L.L. Out of five sessions in the waking state, she had four with negative deviations and one with a zero deviation. In the hypnosis sessions, on the other hand, all five deviations were positive. L.L.'s performance in the waking state ended with the deviation of −21 in her 15 runs, which is significant

Table 5

SECTION C SCORES OF INDIVIDUAL SUBJECTS FOR EACH SESSION

SUBJECT	WAKING STATE				HYPNOTIC STATE			
	Runs	Hits	Dev.	CR	Runs	Hits	Dev.	CR
S. W.	3	17	2		3	23	8	
	3	16	1		3	20	5	
	3	13	− 2		3	24	9	2.60
	3	15	0		3	20	5	
Total	12	61	1		12	87	27	3.90
M. K.	3	17	2		3	17	2	
L. L.	3	7	− 8		3	24	9	2.60
	3	11	− 4		3	19	4	
	3	8	− 7		3	17	2	
	3	13	− 2		3	21	6	
	3	15	0		3	19	4	
Total	15	54	−21	2.71	15	100	25	3.23
A. L.	3	13	− 2		3	17	2	
	3	17	2		3	25	10	2.89
	3	14	− 1		3	14	− 1	
	3	17	2		3	21	6	
Total	12	61	1		12	77	17	
H. C.	3	14	− 1		3	15	0	
	3	15	0		3	13	− 2	
Total	6	29	− 1		6	28	− 2	
J. C.*	3	21	6		3	27	12	3.47
	3	19	4		3	19	4	
	3	15	0		3	18	3	
	3	10	− 5		3	18	3	
Total	12	65	5		12	82	22	3.18
H. L.	3	18	3		3	14	− 1	
	3	12	− 3		3	13	− 2	
Total	6	30	0		6	27	− 3	
S. H.	3	9	− 6		3	17	2	
	3	20	5		3	19	4	
Total	6	29	− 1		6	36	6	
F. T.	3	16	1		3	13	− 2	
	3	17	2		3	20	5	
	3	16	1		3	19	4	
	3	12	− 3		3	26	11	3.18
Total	12	61	1		12	78	18	2.60

Table 5 (Continued)

Subject	Waking State				Hypnotic State			
	Runs	Hits	Dev.	CR	Runs	Hits	Dev.	CR
C. B.	3	13	− 2		3	18	3	
	3	12	− 3		3	22	7	
	3	21	6		3	22	7	
	3	14	− 1		3	25	10	2.89
Total	12	60	0		12	87	27	3.90
J. T.	3	12	− 3		3	25	10	2.89
	3	19	4		3	24	9	2.60
	3	14	− 1		3	20	5	
	3	19	4		3	18	3	
	3	14	− 1		3	16	1	
	3	17	2		3	17	2	
	3	20	5		3	27	12	3.47
Total	21	115	10		21	147	42	4.58
M. M.	3	17	2		3	17	2	

*Always DT.

	Hypnosis Higher	Waking State Higher
Sessions With Unequal Scores	30	5

$\chi^2 = 17.86$ (1 d.f.)
$P = .00002$

(CR = 2.71). In hypnosis, she has a deviation of +25 in 15 runs, which gives a CR of 3.23. This is sufficient to raise the question whether, for this one subject at least, the conditions of the experiment were conducive to psi-missing in the waking state.

Discussion

Something, at least, may be said in favor of the usefulness of hypnosis in improving the scoring rate of the subjects. Out of the four significant positive deviations of the individual sessions in Section B, all four were produced during hypnosis, while the only significant session deviation in the waking state was the negative one produced by K.G. Of the nine significant positive session deviations in Section C, all were made during the hypnotic state. In a word, significant ESP effects did accompany the hypnotic treatment, whatever the responsible conditions may have been.

Perhaps the subjects were usually not equally motivated to perform at their best rate in the waking state. Hypnosis seems to provide the experimenter with a way of concentrating the subject's effort upon his task and improving his interest in his performance. Moreover, with the aid of hypnosis, the subject can be relaxed by the experimenter before the testing begins. Disturbing noises, very common during our experiments, did not usually bother the subjects when they were hypnotized. We cannot, of course, rule out the possibility that equally high results might have been produced in the waking state if special methods of improving the effort of the subject had been used. But so far, we do not know of such a method.

In the experiments reported here, there are strong indications that the subjects were stabilized by hypnosis as such, although we must be careful in our interpretation of the results. The role of the experimenters is very important in such a situation. The subject, if he has enough interest in the work, usually tries to satisfy the experimenter. The whole atmosphere in the experimental room is of the greatest importance; and a person without a strong interest in his task had better not try an experiment in parapsychology, especially not with hypnosis where the subject is very sensitive to the attitude of the experimenter (1).

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ANALYSIS AND EVALUATION OF PROXY SESSIONS WITH MRS. CAROLINE CHAPMAN

By GERTRUDE SCHMEIDLER[1]

ABSTRACT: In the experiment reported here, a series of sessions or "sittings" were held with a "medium." In each session, the medium tried to give information related to an unidentified absent person (called the absent co-operator) to a person who was present (called the proxy co-operator). There were four proxy co-operators and four absent co-operators, and each proxy co-operator sat for each of the absent co-operators, making 16 sessions in all. Each absent co-operator was asked to check the accuracy of the items in all 16 of the records of the medium without knowing which record was intended for him. The items in the records were separated into categories on the basis of their content and were weighted by the experimenter for their unlikelihood of being true for anyone in general. When the data were evaluated by a standard method for appraising verbal material (the Pratt-Birge method), the results as a whole (as well as for some of the categories) were significant by the experimenter's weightings. Independent weighting by another person gave suggestive results. When evaluated solely on the basis of the number of items checked by the co-operators, the results were not significant.

The medium's successes occurred on unusual items more than on common ones, and on details concerning persons connected with the absent co-operator more than on details concerning that person himself.—Ed.

INTRODUCTION

IT HAS OFTEN BEEN OBSERVED that, even with a gifted medium,[2] some kinds of material are more likely to be associated with correct responses than are others. Where this observation is confirmed, we can inquire whether it reflects the characteristics of the psi process or the characteristics of the individual medium. (It is recognized that these may not be true alternatives, for perhaps only those individuals who have certain personality characteristics are capable of being mediums.) One of our objectives has been, in this report of 16 sessions with a medium, to look for a relation between the

[1] The author wishes to thank Mr. Charles E. Ozanne and the Parapsychology Foundation, Inc., for their generous financial assistance; Dr. Louisa E. Rhine and Dr. Gardner Murphy for their suggestions of the names of possible co-operators; Dr. J. G. Pratt for his advice on using the Pratt-Birge method; and—most important of all—Mrs. Caroline Chapman and the eight co-operators of the experiment, all of whom gave it so much of their time and conscientious effort.

[2] The term "medium" as used in this paper carries no spiritistic assumptions. It is adopted for convenience as the most familiar designation of a person who attempts to give correct personal information by means of ESP.

medium's personality and the types of successful responses in her sessions.

Two hypotheses for investigating this question are: (a) Bender and Tenhaeff's suggestion that "many . . . sensitives are apparently inclined to trace, in other people's lives, events similar to those in their own" (1); and (b) the possibility that the medium's habitual perceptual patterns are consistent with the patterns of parapsychical success. In the present paper there was insufficient biographical material to permit a study of the first of these hypotheses. The research gives some evidence to support the second.

Another common observation is that, for any one medium, certain "sitters" or co-operators are better than others. In proxy sessions, where conditions are well controlled, this of course cannot be explained on the ground that some co-operators are more likely than others to give unconscious cues. Perhaps the approach which most deserves analysis here is the one suggested by Murphy's field theory (3): that the needs, abilities (including psychic abilities), and, in general, the personality structure of all the individuals involved in a situation will, taken jointly, form a "field" which is then a major determinant of their behavior. According to this theory, it is not only the characteristics of any single person, but it is also the relations among them, which need study. Although the present experiment was designed to investigate this hypothesis, the results were too fragmentary and slight to permit any conclusions about it. The data were, however, not inconsistent with it, and they did give strong hints of supporting it.

A provocative study by MacRobert suggests how this theory might be applied (2). Using five absent co-operators for whom mediumistic proxy sessions were held, and one person who acted as note-taker in all sessions, he found the over-all hits to be below chance expectation, with some co-operators scoring strikingly below chance and one scoring above. It seems possible that study of the co-operators might indicate what personality factors are conducive to success in proxy sessions.

Shortly after MacRobert's experiment was published, a critical, intelligent person told me that Mrs. Caroline Chapman had given him extraordinarily good private sittings and that she had also ex-

pressed interest in participating in a research project. This seemed an excellent opportunity to follow up the ideas suggested by MacRobert's publication, and an experiment was accordingly designed in which a number of proxy co-operators would hold sessions for a number of absent co-operators, and all would then be given personality tests. Mrs. Chapman had never previously given proxy sessions; and although she felt that they were likely to be less successful than the usual kind, she was willing to participate in this research.

Mrs. Chapman was not in trance when she held her sessions. She arranged to speak slowly enough, or pause long enough between her sentences, to permit the taking of accurate notes. Under these conditions it was possible to find four proxy co-operators who were willing to take part in the experiment and able to do so excellently: two who used shorthand, and one lawyer and one psychiatrist whose experience with interviews equipped them to make accurate longhand records. Four absent co-operators also agreed to participate; and the following experiment was performed.

Procedure

Each of the four proxy co-operators was to hold one session for each of the four absent co-operators, making 16 sessions in all. The only identification of the absent co-operator to either the proxy or the medium was to be the absent co-operator's given name. Results were to be scored and evaluated by a variant of the Pratt-Birge method (**4**). At the conclusion of the sessions with Mrs. Chapman, personality tests were to be given to the medium and to the eight co-operators.

All proxies were given a general statement of the purpose and procedure of the research when first asked to participate in it. After they agreed to do so, they were further instructed to make verbatim notes of words and gestures of the medium and of their own remarks, and to send these notes to the experimenter after each session. Detailed instructions consisted only of the name and, when necessary, the telephone number of Mrs. Chapman, and the given name of the absent co-operator for whom the first session was to be held. On receipt of one set of notes from a proxy, the experimenter sent the given name of the absent co-operator for the next session.

The order of names was so arranged that each absent co-operator was assigned to the first session of one proxy, the second session of another, the third session of another, and the fourth session of the last.

When all sessions were completed, Mrs. Chapman and the eight co-operators were asked to take two personality tests. One of these tests was the Rorschach, which permits personality evaluation from responses to ambiguous figures; the other was the H-T-P, which permits personality evaluation from drawings. One of the proxies refused to take either test; Mrs. Chapman and all other co-operators agreed to make these records available.

On receiving the notes of each session, the experimenter checked with the proxy any points which were not clear and then transcribed the notes. In the transcription, two major changes were introduced (and also a few minor changes of paragraphing or spelling). The first major change consisted of inserting a pair of parentheses after each item which seemed capable of verification. (For convenience of identification, these sets of parentheses were numbered serially for each record, and the numbers were inserted in the left margin of the lines on which the parentheses appeared). The second change consisted of transposing the entire record from the third person to the second person. (Some such modification was necessary to avoid the medium's use of the absent co-operator's first name, or of pronouns which would show the absent co-operator's sex; and use of the second person seemed to make a smoother and more personal account than inserting a blank for the name, and "his or hers" etc., for the personal pronouns.)

The transcribed records were sent to a typist, who made additional copies of them. One copy was then sent to each of the absent co-operators, with instructions for checking. A summary of the pertinent instructions follows.

1. Try to read each sitting, all the way through, as if it was meant for you. (This of course is difficult, because you know that three-quarters of them were meant for someone else. But . . . do your best to keep that attitude.)

2. Enter in *every* pair of parentheses a check (if the foregoing item was correct or, in the case of a name, if it was relevant for you), a question mark (if you are doubtful), or a cross (if the item was wrong or irrelevant).

3. If you have any comments, write them on a separate sheet, identifying them by the number in the left margin . . .

4. In general, predictions are not followed by parentheses. But if a prediction has come true, tell me about it.

5. At the end, glance over the record, to make sure that *every* pair of parentheses has a check, question mark, or cross.

When all records had been returned, some apparent contradictions were found, as where a certain name was followed by a check in the record of one session, but by a cross in the record of a subsequent session. Further inquiry was made about such cases. The usual procedure was for the experimenter to copy out in their entirety the passages in which the apparent discrepancies appeared and to ask that either an explanation for the apparent inconsistency be given or that the check marks be changed so as to be consistent. Where the absent co-operators chose to alter their check marks, the changes were substituted for the original entries.

Modifications in the Pratt-Birge Method

The statistical basis of the Pratt-Birge method as applied in this experiment may be described as follows. A "value" or "score" is arrived at for each of the 16 sessions with reference to each of the four absent co-operators. Thus, session No. 5 might have a value of 423 to absent co-operator A and a value of 72 to absent co-operator C. Insofar as the statistics of the matter is concerned, the assignment of these values is entirely arbitrary, provided the value is obtained without any knowledge as to which absent co-operator each session was really intended for. If the 16 sessions are thought of as divided equally among the four absent co-operators in all possible ways, and for each of these ways a total score is obtained by taking the value of each session to the absent co-operator to whom it is temporarily assigned and totaling these values, a statistical distribution of such total scores is arrived at. Knowing the mean and variance of this distribution and the total score corresponding to the correct assignment of sessions to co-operators, we can estimate the probability that this latter score would have arisen by chance.[3]

[3] The question might be raised whether the values could be assigned in such a way as to make the resulting statistical distribution differ markedly from the normal distribution, so that tables based on the latter would not give a good estimate of the probability. This is certainly a theoretical possibility, but the extent to which it might occur is very difficult to assess and has not been considered in this report.

Pratt and Birge obtained the values of a given session to a given co-operator by the simple enumeration of checked items. However, when the notes of the first session of the present experiment had been received and the experimenter was preparing them for the typist, qualitative differences in content of the items and also quantitative differences in the inherent likelihood of their receiving checks seemed very prominent. It was accordingly decided, before any of the transcripts had been sent for checking to the absent co-operators, that two modifications would be introduced into the Pratt-Birge method: each item would, unknown to the other participants of the project, be assigned by the experimenter both a category designation to denote its content and a numerical weight to denote the experimenter's estimate of the likelihood of its being checked. All categories and weights were assigned before the checked transcripts from the absent co-operators were received.

In the first record, all verifiable statements fell neatly into the four categories below. It was therefore decided that only these categories would be used, but of course many others are possible. For example, in a long-term project, predictions should probably have a separate classification (which in turn might be subdivided). References to the dead could be classed separately from references to the living. If there had been frequent references to dates, objects, places, etc., any of these would deserve separate classifications. Thus the categories used here are not suggested as the appropriate ones for research with a different purpose or procedure, or for other records in which there is a different choice of topics. Our four categories were:

I. Personality characteristics of the absent co-operator, and information relating to the absent co-operator.

II. Information about a person not identified by name or status, when only 1-3 items were given.

III. Information about a person identified by name or status (other than the absent co-operator) when only 1-3 items were given.

IV. A series of four or more items referring to a person other than the absent co-operator.

Although categories were assigned in all cases before the scored records were received from the absent co-operators, they sometimes had to be changed when the records came back. For example, Mrs.

Chapman may have given a name and some dozen items of information about that name. This series of units would therefore be assigned to the fourth category. If, however, the co-operator checked only the name and two items referring to it, the material seemed more properly to belong in the third category. If the co-operator checked only two or three items, not including the name, and indicated that these items seemed strikingly appropriate for someone of a different name, the material seemed to belong in the second category. Changes from the fourth category to the second or third were frequent; and other changes were occasionally made. Each item was therefore put, for each absent co-operator, into the category appropriate to his own pattern of checks.

This redetermination of categories according to each absent co-operator's responses seems the best method for finding whether success on identified communicators *vs.* unidentified communicators, etc., varies from chance expectation. It can, however, be criticized on two grounds. One is that the context of Mrs. Chapman's remarks is no longer fully represented; the other is that changes in category designation should not be made after the data are known. The results are therefore presented both according to redetermination of categories to make them consistent with the intention of the absent co-operator, and also according to the categories originally assigned. Where the original categories are used, the co-operators' responses to later inquiries are omitted. There are thus minor differences in the number of items checked, as well as larger differences in the assignment of items to the various categories, between these two presentations.

As stated above, the second modification introduced into the Pratt-Birge method was the assignment of weights to different items. The standard method consists of counting the number of items checked and treating all of the checks as equivalent to each other. But no such simple scheme can be a completely fair one. It seems clear, to take a hypothetical example, that a check means less for "Someone you love died in the winter" than for "Someone you love died on November 4th." The method of weighting that was used consisted of two steps. The first was to assign a digit from 1 to 10 to each item. The digit was a rough estimate of the experi-

menter's judgment of likelihood. If an item was expected to apply to a large majority of people, it received a rating of 1; if it was expected to apply to about one person in two, it received a rating of 2; if it was expected to apply to about one person in three, it received a rating of 3; and so on.

The second step was to bracket all associated items provided they fell within Categories II, III, or IV, the bracket serving as a direction that checked items within the same bracket should be multiplied by each other in determining the weighted score. (However if a weight of "1" was included, this was to be added to the product.) The rationale was, of course, that the product gave a better measure of the likelihood of checking *interdependent* items than did the sum. Items in the first category would be checked independently of each other, for the most part; items in the other categories would not.

It should be clearly understood that multiplication of the weights for a group of items does not imply that these items are regarded as "independent events" as that term is used in the theory of probability. Rather, the multiplication of the weights may be regarded as a wager being made by the experimenter. If the weights multiplied are large, so that their product is a very large number, the experimenter is making a large bet that the absent co-operator who inserted the particular check marks in question will prove to be the actual co-operator for the session being evaluated. If this turns out to be the case, the total correct will be large and the probability will be decreased; if not, the variance of the statistical distribution of total scores will be substantially increased, and the probability of the actual score thereby increased.

An example might make this clearer. Suppose a passage in the record had read: "Someone is here whose name is Zenobia. She was born in Colorado." A pair of parentheses would have been inserted after "Zenobia" and another after "Colorado." The experimenter would have assigned a weight of 10 to each item on the basis that, at most, one person in 10 would be expected to have known someone named Zenobia and that, in our population, fewer than one in 10 of our acquaintances were born in Colorado. The likelihood that the Zenobia of our acquaintance was born in Colorado seems

better represented by multiplying the two figures than by adding them.

A major difficulty with this second modification of the Pratt-Birge method is that there is no objective way of determining weights. It is well known that some names are more common than others, so that John, for example, deserves a lower weight than Alexander; but there is (to my knowledge) no standard table of frequencies for either given names or family names, and there certainly is no such table for the subgroup from which Mrs. Chapman could expect her sitters to be taken. Other items that need weighting are even harder to assess than are names.

A second difficulty which applied to this research project is that I, as experimenter, knew certain facts about some of the absent co-operators. Occasionally (but very seldom) Mrs. Chapman made statements for which I could anticipate the checks or crosses. It was impossible for me to be sure that I neither weighted them so as to make the results "good" nor leaned over backwards to produce the opposite effect, although of course I tried to do neither. An attempt was made to control these possible sources of error by giving the records to another person to score.

The question has been raised as to whether the assignment of categories could also have been influenced by the experimenter's acquaintance with the absent co-operators. Because of Mrs. Chapman's frequent reference to the absent co-operators by their given names, it seems most unlikely that there could have been any confusion as to whether or not a comment belonged in the first category. In the experimenter's judgment, the assignment of items to the categories need not be considered a source of error in evaluating the results.

Employment of a Second Scorer

A psychologist (R.B.), a graduate assistant at City College, was given general scoring instructions and the typist's copies of the transcripts of all sittings. He was asked to assign both categories and weights to all items and to bracket those weights in Categories II, III and IV which seemed to refer to the same person. It had been decided that his scores would be evaluated just as those of the experimenter were. Examination of his scores showed not only

the expected differences from the experimenter's weights, but also some unexpected minor differences in assigning categories and major differences in assigning brackets. R. B. had (contrary to his instructions) refused to score certain items and had subdivided others. However, for him to have revised any of his scores in order to have them meet the experimenter's standards would have introduced the possibility of contamination from the experimenter's knowledge of the results. R.B.'s scores were therefore retained unchanged; items to which he did not assign a weight were omitted; and parentheses which he inserted were filled in from the context where the proper score was unmistakable, but were omitted in all other instances.

Discussion of Modification of Pratt-Birge Method

It is hard to envisage a completely satisfactory solution to this problem of assigning appropriate categories, brackets, and weights. Perhaps one solution would be to pool the judgment of several intelligent scorers. For instance, in assigning weights, each of the scorers would first form an approximate judgment of the probable background of the sort of people who would be expected to act as absent co-operators in an experiment with a New York medium and a New York experimenter. After discussion, the group would assign weights according to these judgments. Whether the advantage to be gained from using such a group would compensate for the necessary expenditure of time, and perhaps of money, is doubtful. An alternative technique for the assignment of weights would be the preparation of statistical tables of frequencies, comparable to the Carington catalogue of drawings. But this also would take a great deal of time, probably more time than it would be wise to spend, since a new set of tables might have to be drawn for each new research project if the subjects were drawn from a new population sample. The discrepancy between R.B.'s and G.S.'s weightings indicates that, though weighting of items is theoretically desirable, no set of scores determined by a single scorer deserves complete confidence.

Results

Table 1 shows the evaluation of the weighted and multiplied scores of the sessions, with items in Category IV divided into IIa (referring to an unidentified person) and IIIa (referring to an

identified person), and with categories determined according to each absent co-operator's checks and comments. Each of the absent co-operators checked the four sessions held for him and also the 12 sessions held for others. Thus there is a total of 16 "own" or "intended" scores and of 48 "other" or "control" scores. In accordance with the advice of Dr. J. G. Pratt that these values (derived from weighted and multiplied items as checked by the co-operators) were suitable for evaluation by the Pratt-Birge method, the results were so evaluated. (See Table 1). The over-all results are significant by

Table 1

EVALUATION BY THE PRATT-BIRGE METHOD OF WEIGHTED SCORES WITH MULTIPLICATION

CATEGORY*	G. S.'s WEIGHTING				R. B.'s WEIGHTING			
	Session Scores		CR	P	Session Scores		CR	P
	Own	Other			Own	Other		
I	653	2003	.21	.83	590	1972	.92	.36
II	267	297	1.31	.19	214	365	1.01	.31
III	1081	947	2.20	.03	317	570	1.62	.11
IV (IIa + IIIa)	1316	1635	1.79	.07	11547	1800	1.92	.05
II + IIa	1023	1408	1.70	.09	10454	1774	1.74	.08
III + IIIa	1641	1471	2.47	.014	1624	961	1.96	.05
II + III + IV	2664	2879	2.99	.0028	12078	2735	1.96	.05
Total	3317	4882	2.95	.0032	12668	4707	1.94	.05

*Explanation of Categories:
I: Items about absent co-operator.
II: Series of 1-3 items about unidentified person.
III: Series of 1-3 items about identified person.
IV (IIa): Series of 4 or more items about unidentified person.
IV (IIIa): Series of 4 or more items about identified person.

G.S.'s weightings ($P = .003$) and suggestive by R.B.'s ($P = .05$). Many of the subgroups, which include the results that fell within each of the four categories or within logical combinations of categories, are also significant or suggestive.

Since multiplying the weights was an unusual procedure, it seemed desirable to evaluate separately the *weighted* scores with no multiplication. Table 2 shows the totals of "own" and "other" sessions as derived in this manner, and their evaluation by the Pratt-Birge method. These unmultiplied scores are insignificant and (with one exception) not even suggestive by G.S.'s weightings. By

Table 2

EVALUATION BY THE PRATT-BIRGE METHOD OF WEIGHTED SCORES WITHOUT MULTIPLICATION

CATEGORY*	G. S.'s WEIGHTING				R. B.'s WEIGHTING			
	Session Scores		CR	P	Session Scores		CR	P
	Own	Other			Own	Other		
I	653	2003	.21	.83	590	1972	.92	.36
II	63	193	.05	.78	80	221	.31	.76
III	227	482	1.24	.22	205	382	2.10	.04
IV (IIa + IIIa)	117	201	1.33	.48	92	145	1.19	.23
II + IIa	127	359	.18	.86	116	338	.09	.93
III + IIIa	280	517	1.84	.07	261	410	2.88	.004
II + III + IV	407	876	1.62	.10	377	748	2.28	.023
Total	1060	2879	1.00	.32	967	2720	.65	.52

*Explanation of Categories: See Table 1.

R.B.'s weightings, however, if no correction is made for selection, the items referring to an identified person are highly significant (Category III + IIIa; P = .004), and two other groupings of items related to this and to each other are suggestive or marginally significant (P = .04 and P = .023).

The standard use of the Pratt-Birge technique for evaluating verbal records is based on the simple enumeration of checked items. These are summarized and evaluated in Table 3. None of the eight

Table 3

EVALUATION BY THE PRATT-BIRGE METHOD OF NUMBER OF ITEMS CHECKED IN ALL SIXTEEN RECORDS

CATEGORY*	G. S.'s ITEMIZING				R. B.'s ITEMIZING			
	Session Scores		CR	P	Session Scores		CR	P
	Own	Other			Own	Other		
I	258	774	....	...	239	738	.31	.76
II	18	62	.35	.73	32	95	.47	.64
III	45	115	.63	.53	57	130	1.26	.21
IV (IIa + IIIa)	33	72	.71	.48	20	45	.48	.63
II + IIa	39	124	.17	.86	37	131	.59	.56
III + IIIa	57	125	1.26	.21	72	139	2.10	.04
II + III + IV	96	249	.72	.47	109	270	1.14	.25
Total	354	1023	.46	.65	348	1008	.43	.67

*Explanation of Categories: See Table 1.

groupings of items is suggestive by G.S.'s itemization of the material; one of the eight is suggestive by R.B.'s itemization. It is clear that if this method alone had been employed, the sessions would have been considered failures.

R.B.'s and G.S.'s differences in categorizing, in weighting, and especially in bracketing the items are indicated by the differences in session scores and in significance shown in the foregoing tables. In spite of those differences, we can find some similarities: over-all results are suggestive or significant, the greatest success came in

Table 4

FREQUENCY OF CHECKED WEIGHTS IN INTENDED (OWN) AND CONTROL (OTHER) SESSIONS (EXCLUDING ITEMS IN CATEGORY I)

WEIGHT	CATEGORY II No. OF CHECKS		CATEGORY III No. OF CHECKS		CATEGORY IV (IIa) No. OF CHECKS		CATEGORY IV (IIIa) No. OF CHECKS		TOTAL	
	Own	Other	Own	Other*	Own	Other	Own	Other	Own	Other
G. S.'s Weighting										
1	1	5	1	6	4	14	0	2	6	27
2	7	32	11	36	8	27	6	1	32	96
3	3	8	3	23	3	10	0	4	9	45
4	2	2	6	9	3	2	0	0	11	13
5	3	8	8	12	1	5	2	1	14	26
6	0	1	4	6	0	0	0	1	4	8
7	0	4	2	7	0	0	3	0	5	11
8	2	1	3	7	1	2	0	1	6	11
9	0	0	1	2	0	1	0	0	1	3
10	0	1	6	8	1	1	1	0	8	10
R. B.'s Weighting										
1	9	23	3	19	0	5	2	1	14	48
2	14	39	18	44	1	10	2	2	35	95
3	6	18	9	28	0	4	4	3	19	53
4	0	9	8	19	0	9	2	1	10	38
5	1	6	13	14	0	4	4	2	18	26
6	0	0	4	5	0	4	0	0	4	9
7	0	0	0	1	0	0	0	0	0	1
8	0	0	1	1	3	0	0	0	4	1
9	0	0	0	0	0	0	0	0	0	0
10	2	0	1	0	1	0	1	0	5	0

*There is a discrepancy of one item between the sum of this column and the corresponding figure in Table 3. "Aunt Jane" had been assigned only one pair of parentheses, and thus was treated as only one item for Table 3. It was weighted as if it were two items.

precise identifications, and there is no positive contribution from descriptions of the absent co-operator.

It may also be of interest to examine the patterns of weighted checks in intended (own) and control (other) sessions. The distributions of weights in Categories II, III and IV are shown in Table 4. It is clear that R. B.'s weights for the 16 "own" sessions and the 48 "other" sessions tend to be lower than G.S.'s. For both scores, however, a larger proportion of items with high weights seem to be checked in the "own" sessions than in the control sessions. To evaluate this, Table 5 compares low weights with high

Table 5

Evaluation of Frequencies with which Low Weights and High Weights Were Checked, for Intended (Own) and for Control (Other) Sessions

Weights	G. S.'s Weighting		R. B.'s Weighting	
	Chi square	P	Chi square	P
1-3 *vs.* 4-10	9.80	.005	3.62	.06
1-4 *vs.* 5-10	4.66	.05	11.57	.001
1-5 *vs.* 6-10	2.70	> .1	(exact method)	.004

weights for both scorers, putting the cutting line between "low" and "high" at three different levels where it could reasonably be assigned. For each scorer, there is some indication that higher weights were checked for the intended sessions than for the control sessions.

Table 6 shows calculations based on items in categories originally assigned, without reference to the absent co-operator's intention in making checks. The table, as presented, shows many minor differences from the others, but probably none which requires any substantial difference in interpretation. One group of weights, however, which had been originally put by both R.B. and G.R.S. into the fourth category, is represented in Section C of the table by added rather than multiplied weights. A full description follows.

The original passage, as transcribed from Mrs. Chapman's sitting, reads:

> I'm being shown, for evidential purposes only, a very heavy ( ) gold ( ) chain ( ) with a locket on it ( ) surrounded ( ) by little ( )

pearls ( ), black ( ) onyx ( ) on one side ( ) and gold ( ) on the other ( ). It's as if it is in your family and there's a grandmother ( ) very anxious that you get it. She says, "I'll see that you get it. I want you to have my ( ) gold locket and my gold chain.

Table 6

EVALUATIONS BY THE PRATT-BIRGE METHOD WHEN ITEMS ARE CATEGORIZED WITHOUT REFERENCE TO ABSENT CO-OPERATORS' CHECKS OR COMMENTS

CATEGORY	G. S.'s WEIGHTING			R. B.'s WEIGHTING		
	Dev.	CR	P	Dev.	CR	P
A. Number of Checked Items						
I	−7.75	.48	.64	−1.75	.12	.91
II	−3.75	1.09	.28	−2.50	.70	.49
III	+11.75	2.19	.03	+5.75	.97	.34
IV	+8.75	.87	.39	+7.50	1.01	.32
II + III + IV	+16.75	1.41	.16	+10.75	1.05	.30
Total	+9.00	.45	.66	+9.00	.50	.62
B. Weighted Scores without Multiplication						
I	−12.75	.31	.76	−39.25	.80	.43
II	−8.25	.86	.39	−3.50	.39	.70
III	+60.75	1.93	.06	+41.25	1.84	.07
IV	+50.00	1.31	.19	+44.25	1.67	.10
II + III + IV	+102.50	2.04	.05	+82.00	2.28	.03
Total	+89.75	1.38	.17	+42.75	.70	.49
C. Weighted Scores with Multiplication						
II	−13.75	1.00	.32	−8.50	.73	.47
III	+299.50	2.80	.006	+48.25	1.26	.21
IV*	+1030.75	2.54	.02	+2349.00	3.32	.001
II + III + IV*	+1316.50	3.13	.002	+2388.75	3.37	.001
Total*	+1303.75	3.09	.002	+2349.50	3.31	.001

*See the text for description of one group of items where weights were added instead of being multiplied.

One of the co-operators checked the description of the chain and locket, but commented that they belonged to her and had no connection with her grandmother or family. In Tables 1, 2, and 3, these items were accordingly classified as being in the first category since they referred only to the absent co-operator. Weights in the first

category are not bracketed or multiplied; and the total score was 39 by R.B.'s scoring and 40 by G.R.S.'s scoring. In Table 6, where the items were retained in the fourth category and bracketed, the product of multiplied weights was 29,196 by R.B.'s scoring and 26,900 by G.R.S.'s scoring. These products are of a different order of magnitude from any other (the next largest product was 1,024 by R.B.'s scoring and 432 by G.R.S.'s scoring). They are also substantially larger than the total of all other products for the entire fourth category (6,024 for R.B. and 4,545 for G.R.S.). They were therefore excluded from the tabulations, and the *sum* of the items was included instead. The reader who considers this improper should read Table 6, Section C, with these products included, and thus with a negative deviation of more than 20,000 in the last three lines and with the corresponding probability figures suggestively low. Only the weighted scores of the third category would, with this handling of the data, give evidence of parapsychical success.

Discussion

Relation Between Success and the Medium's Personality

The major finding of this research has been that significant differences indicating parapsychical success can be found in the data of proxy sessions when the data are weighted and are divided into categories according to their content, although simple enumeration of items would have indicated only chance success. This supports the observation quoted at the outset of the article, that some kinds of material are more likely to be correct than are others. We must now inquire whether personality tests throw any light on which kinds of material will be successful.

Mrs. Chapman's Rorschach is a long one (114 responses) with a very large number of original responses (84) and few populars (4). Many of the originals are "rare details" with excellent "form level." In nontechnical language this means roughly that Mrs. Chapman tends to note with great accuracy many isolated, unusual items, and, on the other hand, that she tends not to be concerned with observation of common, everyday facts. This seems to show a marked similarity to the pattern of success brought out in Tables 4 and 5, where we found chance (or less than chance) scoring for the com-

mon items with low weights, but significantly higher scoring for the unusual items with high weights.

Another outstanding characteristic of the Rorschach, which is harder to state quantitatively but which was noted independently both by a professional Rorschach examiner and by myself, is that, in spite of a normal interest in other people (H + Hd = 33%), Mrs. Chapman seems to feel little need for intimate personal involvement with others. The inner meaning of events, symbolic values, the appreciation of nature, etc., seem more important to her. (Let me add that this should not be taken to imply that Mrs. Chapman is a cold person. On the contrary, the Rorschach examiner writes about Mrs. Chapman's protective "watching-over-others" attitude.) The relative success of Categories II, III, and IV over Category I seems consistent with the Rorschach pattern, in that it would be Category I that would be expected to reflect need for close involvement with another individual.

These observations fall far short of proof of a relationship between normal perceptual or emotional patterns and parapsychical success. Nevertheless they seem to me to warrant the working hypothesis, for future research, that a gifted subject or a medium is most likely to succeed parapsychically in the areas in which her thinking is most able under normal conditions. If we are studying a person's psychic ability, we cannot assume him to be equally successful in all fields. It might therefore be wise for us to test the parapsychical abilities that correspond to this individual's best normal abilities. Perhaps some of the null results in previous work have been due to the combination of areas in which a person was weak with areas in which he was strong, so that whatever parapsychical material appeared was watered down by the other data. If I, for example, were now to do research with some other medium or gifted subject, I would give a Rorschach or equivalent personality test at the beginning rather than at the end of the experiment and would set up the hypothesis that the items in the areas of his greatest skills and deep needs and interests (but not necessarily his superficial ones) were the items that would show most parapsychical success.

Interpersonal Patterns of Proxy Co-operators and Absent Co-operators

To examine the interpersonal relations of proxy and absent co-operators, it was necessary to ask the help of someone who had not already seen the data. An expert in projective tests was therefore sent the Rorschach protocols and drawings of the four absent co-operators and three proxy co-operators who participated in this part of the experiment, and she was asked to say which proxy co-operators would be expected to get along well with each of the absent co-operators. Before receiving her results, I rated each of the 12 possible combinations of proxy and absent co-operators as having produced a good or a poor session. Of the five sessions which I considered good, four corresponded to potential personal relationships which the Rorschach analyst considered good; but of the seven sessions which I considered poor, only four corresponded to potential relationships which she considered poor. The probability of such a correspondence is .22, which of course is not significant.

Detailed examination of the records is less discouraging. It implies that more specific instructions to the Rorschach analyst would have given better results. Two of the cases where the analyst had written that the relationship would be good but where I had rated the sessions poor carried these qualifying comments in the Rorschach interpretation: "good if not too close" and "casual, non-intimate, fairly good"; but none of the others carried these qualifications of non-intimacy. With such a small number of cases, transferring these two from the "good" Rorschach to the "poor" Rorschach category would have raised the level of significance to an acceptable level. The possibility is still open, therefore, that analysis of the potential *close* friendly relationships between proxy and absent co-operators will help us understand which proxy sessions are more successful. It is also obvious, of course, that if the number of cases had been doubled or tripled, and if (an important "if") the same percentage of success had been maintained, even the obtained ratio of two to one for correct to incorrect would have given suggestive or significant results. My opinion is that it would be worth while to continue some such approach as this one, but that later research

should use improved instructions to the test analyst and also, if possible, more incisive testing techniques.

Conclusions

1. Analysis of 16 proxy sessions by the Pratt-Birge method showed significant over-all results and also significant results for selected categories, when the items were assigned to categories according to the absent co-operators' responses and were weighted by the experimenter. Independent weighting by another person gave marginally significant results. Results were not significant for the number of items checked.

2. The medium's successes were more likely to occur on unusual items than on common ones and were also more likely to occur on details referring to other persons than on descriptions of the absent co-operator.

3. Data from personality tests indicate that the medium's successes corresponded to the areas of her normal interests and to her most effective modes of perception.

4. There were some indications that, even though the proxy co-operators were not acquainted with the absent co-operators, the potentiality for an intimate friendly relationship between them was related to the success or failure of the sessions.

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BOOK REVIEW

LA TELEPATHIE. By Robert Amadou. Paris: Grasset, 1958. 160 pp.

In this small illustrated book Mr. Amadou sketches the history of the methods used to verify the existence of telepathy from the time King Croesus checked the Delphic oracle to the experiments of today inspired chiefly by the work of Drs. Rhine and Soal.

He shows how general acceptance of telepathy, in which he includes cognition of the behavior as well as of the "psychophysiological states" of another person, has been impeded by the detection, in some instances, of fraud, illusion, or unconscious sensory clues. His suggestion is that although the discovery of such factors cannot disprove telepathy, they should make us more cautious in our evaluation of the evidence. The author discusses the many spontaneous cases and the "qualitative" experiments with apparently gifted subjects and concludes that they do not give decisive proof though they are highly suggestive. It is only the modern "quantitative" experiments that remove all doubts and raise telepathy to the level of a scientifically established fact.

At the end of the book Amadou touches on the different hypotheses about the nature of telepathy and observes that we do not know yet what it is.

The book is a good popular introduction to the scientific research in telepathy and GESP.

WADIH SALEH

PARAPSYCHOLOGICAL ABSTRACTS

Edited by SARA R. FEATHER

This section consists of abstracts of reports published in other journals and of unpublished reports filed at the Parapsychology Laboratory of Duke University. Readers may obtain unabridged copies (Thermo-Fax) of the unpublished reports by writing to the Journal of Parapsychology, College Station, Durham, N. C. The price is ten cents per page.

BENDER, HANS. Experimentele vooschouw (Experimental precognition). *Tijdschrift voor Parapsychologie,* 1958, **26**, 9-45.

The Dutch sensitive Mr. Gerard Croiset endeavours in the "seat experiment" to describe a person who later is to occupy a certain auditorium seat. He tries to anticipate the identity of the target person by descriptions of his appearance, personality, and emotional experiences. The seat experiment is a model of a lively experimental situation with an emotional field of tension which permits an insight into the individual functioning of paranormal [parapsychical] faculties and, especially, into their affective motives. It presents the difficulty of clearly proving free paranormal material. Starting from exploratory experiments, the author describes the development of a method permitting a quantitative evaluation of the degree to which the target person can be differentiated from among the whole group of subjects taking part in the experiment. . . .

[From the author's English abstract.]

CHILDS, P. O., AND SHARRETT, A. R. Alpha-types and ESP. (Unpublished manuscript.)

The experiment failed, for lack of significant results, to bring to sufficient test the hypothesis that "verbalists" would be significantly more successful than "visualists" in GESP tests. The hypothesis was based on studies suggesting: (1) that synchronization of alpha brain rhythms is conducive to ESP scoring; and (2) that verbalists have more persistent alpha rhythms than visualists in electroencephalogram readings. In the present experiment, five agent-percipient pairs of visualists (high scorers on the Thurstone space ability test)

obtained a run average of 4.94 for a total of 50 runs. Five agent-percipient pairs of verbalists (high scorers on the Thurstone word fluency test) obtained an average of 5.32 correct guesses for 50 runs. The difference between these two groups, although in the expected direction, was not significant.

CORK, R. M. S. Report on an investigation to determine whether the experimenter possesses PK ability. (Unpublished manuscript.)

Statistically significant evidence of PK ability is reported by the author, who tested himself in two series, each consisting of over 600 throws of two dice. In the first series he aimed at faces totaling 9, and in the second series at faces totaling from 8 to 12. The number of successes and failures for each of the 14 sessions is presented, along with the total distribution of the die faces. The latter is analyzed to indicate the unbiased nature of the dice. Attention is drawn to the observation that PK ability seems to be dependent upon the subject's attitude, and an effort is made to describe the predominant attitude of each session.

DICKENSON, W. N., AND FOSTER, E. B. An experiment in parapsychical diagnosis. (Unpublished manuscript.)

An experiment is described in which the subpect, H., attempted to diagnose the illnesses of 20 hospitalized patients about whom she knew only their respective titles (Mr., Mrs., or Miss), initials representing their names, and the name of the hospital in which each was confined. For purposes of statistical evaluation, the cases were selected to comprise five groups, each of which contained four successive patients with the same title. The physician, Dr. C., who selected the cases, wrote a brief medical summary of each which he sent to Mrs. Foster, at the Parapsychology Laboratory of Duke University. To another co-experimenter, Dr. Dickenson, he gave slips of paper with only the titles, initials, and addresses of the 20 patients. Dr. Dickenson read these to H. and recorded her impressions on each case. The results were judged by two other medical doctors independently of each other, using a method of

preferential matching. The combined scores obtained by the two judges for all four groups are statistically significant.

SCHMEIDLER, G. R. Agent-percipient relationships. *J. Amer. Soc. psych. Res.*, 1958, **52**, 47-53.

In an effort to investigate the role of the sender or agent in ESP tests, agent-percipient pairs were given GESP runs randomly alternated with runs of clairvoyance. The latter were of two types: (1) "success" runs in which the agent was instructed to wish for the percipient's success in guessing the targets unknown to the percipient; and (2) "failure" runs in which the agent was instructed to wish for the percipient's failure. Percipients were led to believe that all runs would be of the GESP type. The over-all results of the three groups (GESP, "success," and "failure") failed to give significant results, but some of the correlation coefficients based on the results of the different test conditions were interpreted to mean that GESP involves a different process from clairvoyance.

In an analysis of the results of those subjects who rejected the possibility of success in the GESP tests, eight out of nine sessions with seven subjects tested by Dr. Schmeidler had negative GESP deviations, whereas five others tested by a different experimenter all had positive scores. The GESP totals for each group were significant. Significantly accurate predictions of GESP scoring level were made by the author on the basis of global Rorschach interpretations, supplemented by interview data. A more objective but unvalidated method of making comparable Rorschach evaluations is also described.

THE PARAPSYCHOLOGICAL ASSOCIATION

The first annual convention of the Parapsychological Association will be held at The City College of New York in the Townsend Harris Hall, 138th Street and Amsterdam Avenue, from Thursday, September 4, through Saturday, September 6, 1958.

All parapsychologists and members of related professions are invited to attend, but admission to the sessions will be restricted to those who have registered and are wearing registration badges. Participation in the discussions will be limited to the membership.

PROGRAM*

Thursday Morning, September 4

9:00	Registration
10:00	Convention Call to Order.....Dr. R. A. McConnell, President
	Secretary's Report.....Miss Rhea White, Secretary
	Treasurer's Report.....Mr. W. G. Roll, Treasurer
11:00	Council Meeting

Thursday Afternoon, September 4

Session 1

1:30- 1:55	Emotional Telepathy.....Dr. G. H. Estabrooks
1:55- 2:20	Physiological Conditioning for Psi Performance.... Dr. J. H. Rush and Mr. Harold Cahn. Presentation by Mr. Cahn
2:20- 2:45	Some Pharmacological Observations on ESP..... Dr. Cedric Wilson and Mrs. Pamela Huby. Presentation by Dr. Wilson

Session 2

3:15- 3:40	Terminal Salience with Multiple Digit Targets..... Dr. Carroll Nash

* Subject to minor changes.

3:40- 4:05 The Unconscious Nature of Psi....Mr. W. G. Roll

4:05- 4:30 Application of Statistical Quality Control Techniques to Statistical Psi Control Problems..... Mr. Robert Taetzsch

7:00 Convention Dinner Speaker: Dr. Gardner Murphy

Friday Morning, September 5

Session 1

9:00- 9:30 An Investigation of ESP between Teachers and Pupils of First and Second Grades..... Mr. J. G. van Busschbach. Presentation by Miss Margaret Anderson

9:30-10:00 GESP Tests with First-Grade Pupils..... Madame Paul Vasse

10:00-10:30 The Relationship between Changes in Students' Attitudes and ESP Scoring....Miss Rhae White

Session 2

11:00-11:30 GESP Tests with Fourth- and Fifth-Grade Pupils Mr. James Hall

11:30-12:00 The Relationship between ESP Scoring and Student Class Grade.....Miss Margaret Anderson

Friday Afternoon, September 5

Session 1

1:30- 2:00 ESP and the Bird Navigation Problem..... Dr. J. G. Pratt

2:00- 2:30 A Test for Adding Extrasensorially Perceived Digits Mrs. Catherine S. Nash

2:30- 3:00 An Exploratory Study of Some Personality Correlates Associated with PK Performance..... Mr. Robert Van de Castle. Presentation by Dr. Gertrude Schmeidler

3:30- 4:00 Exploratory "Scaled" PK Placement Tests with Nine College Students with and without Distance..... Mr. Jarl Fahler

4:15 PRESIDENTIAL ADDRESS..... Dr. R. A. McConnell

Saturday Morning, September 6

9:00- 9:30 Three New ESP Test Machines and Preliminary Results.....Mr. Wilbur Stewart

9:30-10:00 Human Reason and Parapsychology: A Philosophical Meditation.....Miss Caroline Schuetzinger

10:00-10:30 Psychokinetic Experiments at Göttingen..... Mr. Georg Czerlinski

10:30-11:00 Some Observations on Synchronicity..... Mr. Stephen Abrams

11:15 Business Meeting and Adjournment

Additional Announcements

The Membership Committee announces that to date the Association has 48 Members and 55 Associates.

GLOSSARY

A description of the basic experimental methods, of the findings, and of the statistical procedures for evaluating ESP and PK results may be found in *Parapsychology, Frontier Science of the Mind* by J. B. Rhine and J. G. Pratt (published by Charles C. Thomas, Springfield, Illinois, U.S.A., Blackwell Scientific Publications, Ltd., Oxford, England, and The Ryerson Press, Toronto, Canada).

AGENT: The "sender" in tests for telepathy, the person whose mental states are to be apprehended by the percipient. In GESP tests, the person who looks at the stimulus object.

BT (Basic Technique): The clairvoyance technique in which each card is laid aside by the experimenter as it is called by the subject. The check-up is made at the end of the run.

CALL: The ESP symbol selected by the subject in trying to identify a target.

CHANCE: The complex of undefined causal factors irrelevant to the purpose at hand.

Chance Expectation = Mean Chance Expectation: The most likely score if only chance variation is present.

Chance Average: Mean chance expectation expressed as an expected score, generally in terms of average per run.

CHI SQUARE: A sum of quantities each of which is a deviation squared divided by an expected value. Also a sum of the squares of CR's.

CLAIRVOYANCE: Extrasensory perception of objective events as distinguished from telepathic cognition of the mental activities of another person.

CR (Critical Ratio): A measure to determine whether or not the observed deviation is significantly greater than the expected random fluctuation about the average. The CR is obtained by dividing the observed deviation by the standard deviation. (The probability of a given CR may be obtained by consulting tables of the probability integral, such as Pearsons.)

CR_d (Critical Ratio of the Difference): The observed difference between the average scores of two samples of data divided by the standard deviation of the difference.

DEVIATION: The amount an observed number of hits or an average score varies from the mean chance expectation or chance average. A deviation may be total (for a series of runs) or average (per run).

DISPLACEMENT: ESP responses to targets other than those for which the calls were intended.

Backward Displacement: ESP responses to targets preceding the intended targets. Displacement to the targets one, two, three, etc. places preceding the intended target are designated as (—1), (—2), (—3), etc.

Forward Displacement: ESP responses to targets coming later than the intended targets. Displacement to the targets one, two, three, etc. places after the intended target are designated as (+1), (+2), (+3), etc.

DT (Down Through): The clairvoyance technique in which the cards are called down through the pack before any are removed or checked.

ESP (Extrasensory Perception): Awareness of or response to an external event or influence not apprehended by sensory means.

ESP CARDS: Cards, each bearing one of the following five symbols: star, circle, square, cross and waves (three parallel wavy lines).

ESP PACK: Twenty-five ESP cards.

Closed Pack: An ESP pack composed of five each of the five symbols.

Open Pack: An ESP pack made up of the ESP symbols selected in random order.

EXPECTATION: See *Chance.*

EXTRACHANCE: Not due to chance alone.

FREE MATERIAL: The stimulus objects of experiments in which an unlimited or unspecified range of stimulus objects is employed (as contrasted with methods such as card-calling in which the subject knows that the stimulus object is one of a known range).

GESP (General Extrasensory Perception): A technique designed to test the occurrence of extrasensory perception, permitting either telepathy or clairvoyance or both to operate.

MCE (Mean Chance Expectation): see *Chance.*

P (Probability): A mathematical estimate of the expected relative frequency of a given event if chance alone were operative.

PARAPSYCHOLOGY: A division of psychology dealing with behavioral or personal effects that are demonstrably nonphysical (that is, which do not fall within the scope of known physical principles).

PERCIPIENT = SUBJECT: The person who makes the calls in an ESP test.

PK (Psychokinesis): The direct influence exerted on a physical system by a subject without any known intermediate physical energy or instrumentation.

PLACEMENT TEST: A PK technique in which the aim of the subject is to try to influence falling objects to come to rest in a designated part of the throwing surface.

PRECOGNITION: Cognition of a future event which could not be known through rational inference.

PREFERENTIAL MATCHING: A method of scoring responses to free material. A judge ranks the stimulus objects (usually pictures in sets of four) with respect to their similarity to, or association with, each response; and/or he ranks the responses with respect to their similarity to, or association with, each stimulus object.

PSI: A general term to identify personal factors or processes which are nonphysical in nature. It approximates the popular use of the word "psychic" and the technical one, "parapsychical."

PSI-MISSING: Exercise of psi ability in a way that avoids the target the subject is attempting to hit.

PSI PHENOMENA: Occurrences which result from the operation of psi. They include the phenomena of both ESP (including precognition) and PK.

PSYCHICAL RESEARCH: Older term used for parapsychology.

QD (Quarter Distribution): The distribution of hits in the record page (or in a logical subdivision thereof, such as the set or the half-set) as found in the four equal quarters formed by dividing the selected unit horizontally and vertically.

RANDOM ORDER: An order of events which displays no trends or regularities that would allow any inference regarding one event from one or more of the others in the series.

RUN: A group of trials, usually the successive calling of a deck of 25 ESP cards or symbols. In PK tests, 24 single die throws regardless of the number of dice thrown at the same time.

SCORE: The number of hits made in any given unit of trials.
Total Score: Total of scores made in a given number of runs.
Average Score: Total score divided by number of runs.

SD (Standard Deviation): Usually the theoretical root mean square of the deviations. It is obtained from the formula $\sqrt{npq}$ in which n is the number of single trials, p the probability of success per trial, and q the probability of failure.

SERIES: Several runs or experimental sessions that are grouped in accordance with a stated principle.

SESSION: A unit of an ESP or PK experiment comprising all the trials of one test occasion.

SET: A subdivision of the record page serving as a scoring unit for a consecutive group of trials, usually for the same target.

SIGNIFICANCE: A numerical result is significant when it equals or surpasses some criterion of degree of chance improbability. The criterion commonly used in parapsychology today is a probability value of .01 or less, or a deviation in either direction such that the CR is 2.58 or greater.

SINGLES TEST: A PK technique in which the aim of the subject is to try to influence dice to fall with a specified face up.

SPONTANEOUS PSI EXPERIENCE: Natural, unplanned occurrence of an event or experience that seems to involve parapsychical ability.

STIMULUS OBJECT: The ESP card or drawing or other object, some identifying characteristic of which is to be apprehended by the percipient.

STM (Screened Touch Matching): An ESP card test in which the subject indicates in each trial (by pointing to one of five key positions) what he thinks the top card is in the inverted pack held by the experimenter behind a screen. The card is then laid opposite that position.

SUBJECT: The person who is experimented upon. In ESP tests, most commonly the percipient (though also the agent in GESP and telepathy). In PK tests, any individual whose task it is to influence the objects thrown.

TARGET: In ESP (including precognition) the objective or mental events the subject is attempting to respond to. In PK tests, the faces of the die which the subject attempts to bring up in the act of throwing. In placement tests, the designated part of the throwing surface.

Target Card: The card which the percipient is attempting to identify or otherwise indicate a knowledge of.

Target Pack: The pack of cards the order of which the subject is attempting to identify.

Target Face: The face on the die which the subject tries to turn up by PK.

TELEPATHY: Extrasensory perception of the mental activities of another person (as distinguished from clairvoyant cognition of objective events).

TRIAL: In ESP tests, a single attempt to identify a stimulus object. In PK tests, a single throw of the dice or other objects thrown.

HERE AND THERE IN THE LITERATURE

In the same way that our misconception of the solar system had to be freed from prejudice by Copernicus the most strenuous efforts of a well-nigh revolutionary nature were needed to free psychology, first from the spell of mythological ideas and then from the prejudice that the psyche is, on the one hand, a mere epiphenomenon of a biochemical process in the brain or, on the other hand, a wholly unapproachable and recondite matter. The connection with the brain does not in itself prove that the psyche is an epiphenomenon, a secondary function causally dependent on biochemical processes. Nevertheless, we know only too well how much the psychic function can be disturbed by verifiable processes in the brain, and this fact is so impressive that the subsidiary nature of the psyche seems an almost unavoidable inference. The phenomena of parapsychology, however, warn us to be careful, for they point to a relativization of space and time through psychic factors which casts doubt on our naïve and overhasty explanation of the parallels between the psychic and the physical. For the sake of this explanation people deny the findings of parapsychology outright, either for philosophical reasons or from intellectual laziness. This can hardly be considered a scientifically responsible attitude even though it is a popular way out of a quite extraordinary intellectual difficulty. To assess the psychic phenomenon, we have to take account of all the other phenomena that come with it, and accordingly we can no longer practice any psychology that ignores the existence of the unconscious or of parapsychology.

From *The Undiscovered Self* by C. G. JUNG*

* Little, Brown & Co. in association with the Atlantic Monthly Press.