A MONTH WITH MATTHEW MANNING

Experiences and Experiments in Northern California During May-June 1977

Articles by David W. Deamer, James L. Hickman, Barbara Honegger, John A. Jungerman, F. W. Lorenz, Jean Millay, Jeffrey Mishlove, Hope Mullins, E. A. Rauscher, and Henry S. Dakin

Epilogue by Matthew Manning

Edited by Jeffrey Mishlove

Washington Research Center
3101 Washington Street
San Francisco, CA 94115

CONTENTS

INTRODUCTION

Jeffrey Mishlove
Washington Research Center
3101 Washington Street
San Francisco, CA 94115

Matthew Manning (MM) was raised in Cambridge, England. He was one of three children whose parents provided a stable and comfortable home environment. When MM was eleven years old he became the center of a brief period of intense poltergeist activity at his home--which was subsequently investigated by A. R. G. Owen. A few years later this poltergeistery resumed at home during MM's spring visit from boarding school and continued at his school when he returned (Owen, 1975). Throughout this longer poltergeist period, MM began to exhibit a talent for psychic functioning. He reports that during this time he initiated his first conscious out-of-body experience, had various telepathic experiences, and occasionally perceived colored auras around people's bodies. Gradually he became proficient at automatic writing and learned to use it as a deterrent to the poltergeist activity. Over the next few years, MM discovered that his automatic writing seemed to come from individuals who claimed to have lived centuries ago; that meaningful messages often appeared in foreign languages unknown to him, and that sometimes accurate medical diagnoses of sick individuals appeared. He also developed an ability to produce automatic drawings in the styles of various deceased artists. Hundreds of drawings were produced over the following years (Manning, 1974).

MM's abilities gradually became known to scientists and led to his participation in experiments with investigators from Canada, Holland, England, the United States and other countries. Some new abilities emerged from this experimental work such as apparent success at psychokinetic tasks in Canada (Owen and Whitton, 1975). As a result of these events, in early 1977, researchers from the University of California's Davis campus and the Washington Research Center in San Francisco arranged for MM to visit the United States for experiments. The research schedule allowed each laboratory a one-week period for experiments with MM. He spent the first three weeks of his stay in Davis, California, and the last week in San Francisco. The following reports summarize most of the experiments conducted by individual researchers, as well as anecdotal accounts of spontaneous incidents which may have involved psi. A few additional studies will be published elsewhere.

The multifold purpose of the present report is to present experimental results as well as the ambience and context within which research of this sort occurs.

In all fairness to the scientific field of parapsychology, it must be pointed out that this report is entirely the result of an amateur effort. None of the contributors to this document are full-time parapsychologists. All of the research reported herein was unfunded and conducted in the spare time of the various authors. Several of the authors are professional scientists with an interest in developing research programs in parapsychology who regarded the experience with Matthew Manning as a "pilot" experience in order to establish rapport with MM, in order to determine which lines of research might merit further investigation, and in order to learn through trial-and-error the pitfalls involved in conducting research of this sort.

Of the research designs reported in this volume, only the micro-psi tests reported by J. A. Jungerman and R. L. Jungerman and the rye-grass plant growth experiment reported by James L. Hickman have provided statistically significant data under well-controlled experimental conditions. There are weaknesses which clearly exist in all of the other reports and which, unfortunately, only add additional levels of uncertainty to our attempts to understand these already too paradoxical and controversial phenomena.

To the professional parapsychologist, the publication of poorly designed, poorly controlled or poorly analyzed experiments can have a negative public relations effect on the field of parapsychology as a whole as sceptics often attempt to use such weak studies to impugn the entire field. Matthew Manning has complained that he also is the person who invariably suffers at the hands of detractors and debunkers who use such weak experiments as the ammunition for their attacks.

Taken as a whole, our month-long experience with Matthew Manning has yielded sufficient evidence to refute the arguments of those who would maintain either that Manning is a fraud or that parapsychology is a pseudoscience. Nevertheless it must be emphasized that the data presented herein has not been filtered to eliminate either weak experiments, nonsignificant findings, post hoc interpretations, or subjective impressions. The report does not constitute a finished scientific product, but rather the raw scientific process itself, in its vitality. The use of such qualified data by the promoters and advertisers of Matthew Manning's public career constitutes an abuse of the scientific process which ultimately lends strength to the detractors and debunkers.

Our errors and mistakes are reported here in order that students and interested nonparapsychological researchers can learn from them as we have. Some experiments contained herein, mostly those with nonsignificant or trivial results, are reported in insufficient detail for independent replication. In his epilogue, MM claims that he can perform successfully in some of those innovative experiments if he is allowed to be tested only when he feels he is in the right mood. Should other researchers wish to utilize or refine any of the research designs reported in this volume, the authors have agreed to provide full details to serious researchers on written request.

In concluding, I would like to acknowledge the participation of the following individuals without whose generous help and support this study would not have been possible: Arthur Hastings, Mary Lou Carlson, Amanda Folger, Adrien Ballin, Janelle Barlow Mishlove, RA, CG, Ron Hawke, Caryl Kerolis, Jack Kerolis, Stanley Krippner, Arthur Hastings, Lucio Gatto, Mary Payne, G. Scott Hubbard, Russell Targ, Hal Puthoff, Charles Tart, John Palmer, Clayton Lockhart, Ron Schlatter, Laura, Carol, Cindy, Loring Chapman, and Barbara Simon.

References

Manning, M. The Link. New York: Ballantine 1974.

Owen, A. R. G. The evidence for psychokinesis. New Horizons, 1(5), January 1975.

Owen, A. R. G. and Whitton, J. L. Report on demonstrations and experiments performed during the Conference. New Horizons, 1(5), January 1975.

PART ONE -- SPONTANEOUS EVENTS

ANECDOTAL REPORTS DURING MANNING'S BAY AREA VISIT

James L. Hickman
Washington Research Center
3101 Washington Street
San Francisco, CA 94115

Abstract

Anecdotal incidents regarding MM were collected from over a dozen individuals who interacted with MM during his month-long stay in the San Francisco Bay Area. The events occurred under circumstances which did not yield sufficient information to determine the cause of the phenomena and are presented herein solely for their usefulness in portraying the background ambience of the studies reported in this volume.

Introduction

Over the past few years numerous reports have appeared in the popular and scientific literature describing alleged spontaneous psychokinetic events occurring among television, radio and lecture audiences while certain individuals were describing or demonstrating their psychic abilities (Geller, 1975; Manning, 1977; Price, 1977; Mishlove, 1978). MM is one such person. For instance, during MM's appearance on a Japanese television program last year, one viewer reported that a glass shattered in her living room. Over the next few days the television station received more than twelve hundred reports of glass shattering in viewers' homes during the program--according to MM's latest book. One man said that he placed some money in an ashtray on top of his television set and the money suddenly disappeared. Another man reported the unexplained appearance of a sum of money alongside the cushion on which he sat watching the program. Other viewers claimed that the broadcast appeared in color on their black and white television sets.

During MM's stay in the San Francisco Bay area several individuals reported unusual experiences during their association with him. The events occurred under circumstances which did not yield sufficient information to determine the cause of the phenomena.

Week of May 16, 1977

On the evening of May 18, the project participants gathered at the home of Dr. Fred Lorenz (FL) in Davis, California, to meet MM and discuss planned experiments. Approximately twenty people were present for the three and one half hours of conversation. A research assistant (RA) remained after everyone departed and was briefly alone in the house while FL drove MM to his accommodations. During this time she heard a series of noises which seemed to issue spontaneously from the windows, the ceiling and the floor. The noises occurred individually, each one followed by a brief period of silence. She later stated that each noise sounded like a "rather

high-pitched ping." RA felt uncomfortable and went outside where she could not hear the "pings". When FL returned, they sat in the living room discussing the evening while RA continued hearing sporadic pings from various parts of the house. FL, whose hearing impairment limits his sensitivity to high frequency sound, did not hear anything. The noises stopped about thirty minutes later. MM later commented that most poltergeist-type rappings associated with him sounded like a bat's high-pitched squeak, after he was told of this event and asked to comment on it.

RA and MM developed a productive rapport during MM's stay in Davis. One evening at RA's request, MM instructed her in automatic writing. She quickly learned to form letters and wrote the word "Joseph" three times (Figure 1). Since this didn't develop further, she asked MM to try and he wrote a message about "Sister Josephine", which said that she died in 1922 (Figure 2). RA and MM then decided to visit a nearby cemetery and there MM wrote another message concerning "Sister Josephine" (Figure 3) and another one signed "William Wier" (Figure 4). Messages from Robert Webbe (a personality who has come through MM previously) and a drawing purported to be from Daumier came in later sessions between RA and MM (Figures 5 & 6).

FL searched through cemeteries and vital statistics offices in Yolo and Solano Counties for a record of William Weir without success. No attempts to find a record of Sister Josephine were made.

After MM left Davis, RA returned to her normal research activities. About a week after his departure, a computer bank which RA was using to analyze data developed a malfunction. Over the next couple of weeks similar breakdowns occurred whenever she used the computers. A few times RA observed an apparent correspondence between her proximity to the computer bank and sporadic changes in rotation speed of the tape reels. Usually the computers operated normally again after RA left the room. No one could explain the temporary breakdowns but observers said they resembled a circuit overload. The incidence of this effect gradually diminished but has not completely ceased. Recently a similar difficulty developed with other equipment in the laboratory where RA conducts her research. She reports that these effects occur most often when she is upset. She does not claim to possess any unusual psychic ability but has stated that perhaps MM's guidance helped her "exteriorize some innate capacities". No effort is being made to follow up on this possibility in any systematic way. RA is afraid that any publicity would interfere with her professional career.

During FL's physiological experiments with MM, two attempts were made to monitor MM's heartbeat using a heart rate coupler connected to a Beckman Dynograph. Control tests prior to MM's arrival in the laboratory indicated that the equipment was operating perfectly. Everything continued functioning normally until a few minutes

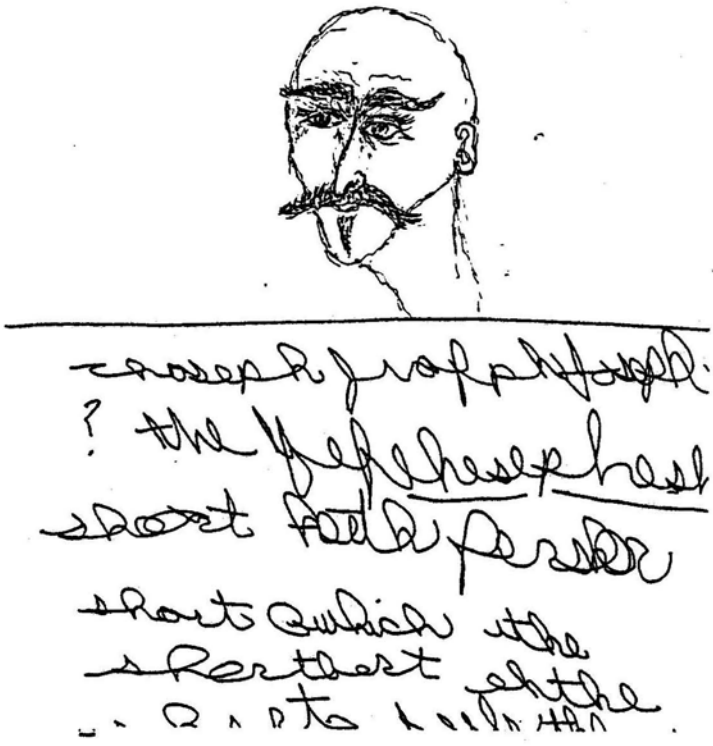


Figure 1.

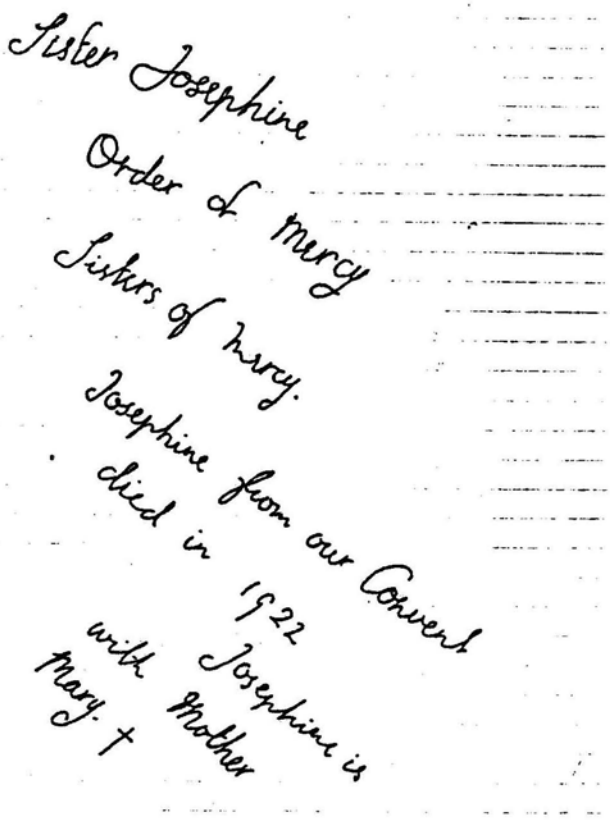


Figure 2.

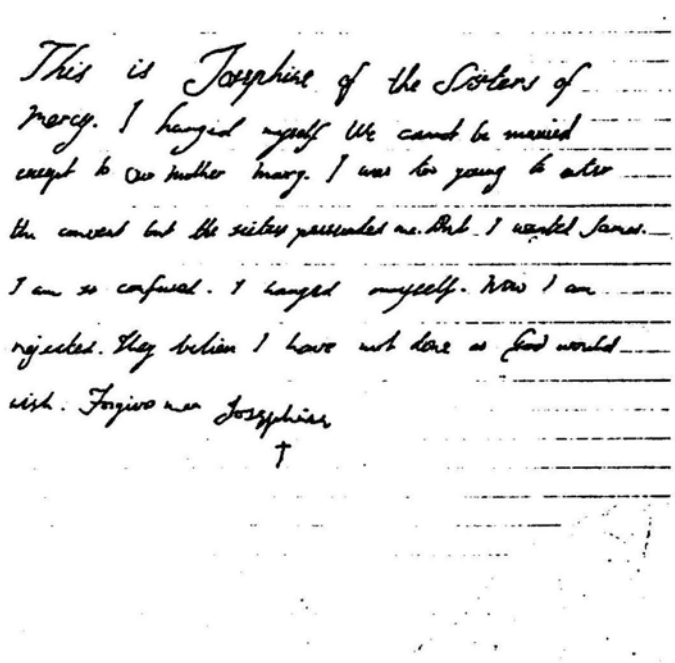


Figure 3.

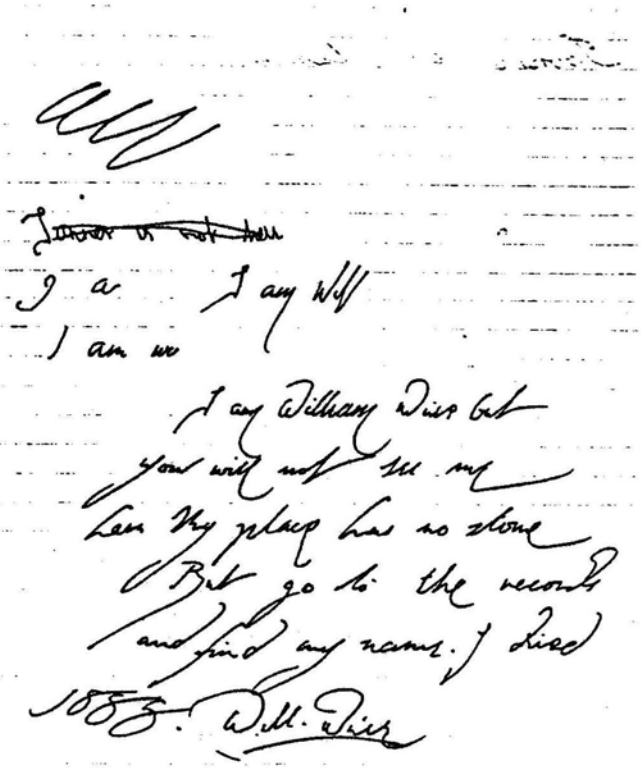


Figure 4.

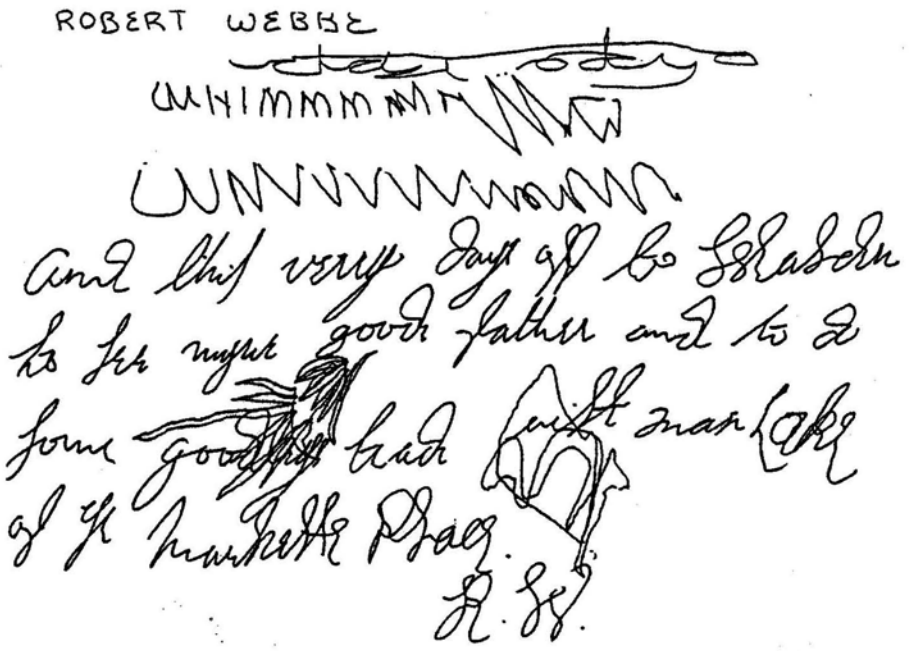


Figure 5.

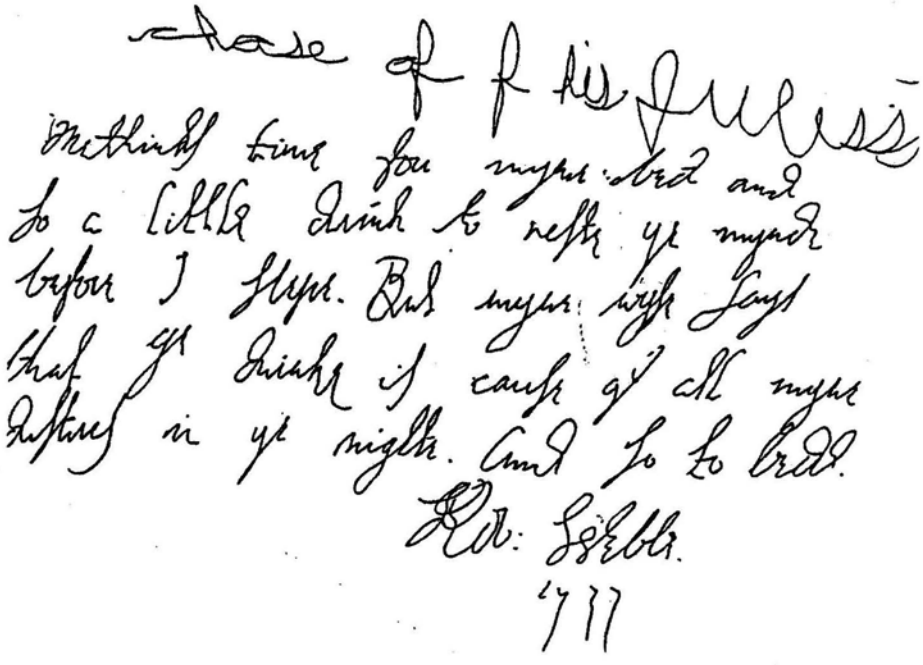


Figure 6.

before the experiment began when the heart rate coupler stopped working. It started again later that day after MM left and functioned normally during the control tests the next morning. Just before the second experimental attempt, the coupler malfunctioned again. FL had experienced similar trouble with the device six months previously. A repairman inspected it and found nothing wrong. It was returned to the manufacturer after the recent failure. The personnel there could find nothing wrong with it and it has functioned well since its return.

On the morning of May 21, MM participated in telepathy experiments at FL's U.C., Davis, laboratory. CG, a research assistant who had not yet met MM, traveled to Sacramento that morning on personal business. About 10:00 a.m. she opened her contact lens case and discovered a slight bend in the right contact. She held it up to the light and saw a slight "ripple" across the center of the lens. Half of the lens appeared to curve normally but the ripple caused about a 20° change in the curvature of the other half. The left lens was not distorted. The contacts were glass and had never changed shape before. CG wore the left contact all day, but did not attempt to wear the right one. About 5:00 p.m., she inspected the lens again and found that it had returned to its normal shape. When CG described the experience to MM and FL a few days later, MM recalled other alleged instances of this strange effect on glass. These remembered events involved glass breaking or cracking.

Week of May 23

During this week, MM stayed with Dr. John Palmer (JP) in Davis, California. In JP's living room hung a cuckoo clock which had not operated since he had stopped winding it two years before. One evening MM listened to an Uri Geller record and later JP noticed that the clock was ticking, apparently without having been wound. It continued ticking until he manually stopped it a few minutes later. It has not ticked again since that evening.

On the evening of May 29, MM and JP attended a local party. MM decided to depart earlier than JP so the host offered to drive MM home. JP removed his door key from his key ring and noticed that the key was bent about 20°. When MM arrived at the apartment a few minutes later the key was apparently bent further and would not enter the lock. He placed it on the pavement and jumped on it until it straightened. JP observed that the key had been straight when he used it earlier that evening.

Week of May 30

MM stayed at the home of Dr. John A. Jungerman (JAJ) through the week of May 30 while participating in experiments at the University of California, Davis, Physics Department. During one morning session with JAJ and Ron Hawke (RH), MM worked extremely hard attempting to alter the temperature inside a sealed container. Although no temperature changes were evident, there were repeated indications of unusual

electrical-field activity in the target area. At noon, when the session adjourned for lunch, the three experimenters walked together to the elevator. MM entered first and, by pressing the appropriate button, held the doors open for additional passengers. Approximately fifteen seconds later the emergency bell rang, signalling that the elevator was jammed. No one could correct the malfunction immediately and everyone walked down the stairs to the main floor. After lunch the elevator was working properly again. JAJ, a regular user of the elevator the past eight years, was unaware of any similar malfunction before or since that afternoon. JAJ and RH speculated that the difficulty may have resulted from anomalous electrical activity stimulated by MM during the morning's experiments.

Week of June 6

MM departed from Davis on June 7 and spent the last ten days of his visit in the San Francisco area. Shortly before 11 p.m. on June 8, an unusual windstorm blew a tree limb off its base onto nearby power lines, blacking out over seven hundred Davis homes and businesses for more than an hour. The limb and power lines fell to the ground alongside the Jungerman residence nearly smashing the bedroom in which MM had slept for the previous seven nights.

On June 8, a taped interview between Jeffrey Mishlove (JM) and MM was aired on KPFA radio in Berkeley. In response to the program the station personnel reported that they received over a dozen phone calls from listeners who described unusual phenomena in their homes during the broadcast. None of the events were recorded by the studio personnel and no details were available. One female listener called JM at his residence. She had been drawing a bath during the interview but when the tub filled and she turned off the faucet, the water continued to flow. She stated that immediately after the program ended the water ceased flowing from the tap.

At 11:30 a.m. on June 9, JH was driving MM to Berkeley for a radio interview. Rain was falling lightly and the windshield wipers were on. During a discussion of MM's unusual spontaneous effects, the wiper on the driver's side of the car stopped abruptly while the other wiper continued to function normally. They decided against having it repaired immediately since MM thought that it might start working again after his departure on June 17. Later that day, however, JH made a cursory inspection of the wiper system to detect any obvious cause of the problem. He could not determine its origin. Over the next four days he tested the wipers periodically for any functional change. None was observed.

Caryl Kerolis (CK) first met MM socially soon after his arrival in California. She assisted with the logistics of MM's visit and was acquainted with his history. On June 9, CK listened to a noon radio interview with him. She was in an "expectant mood" when she left home after the broadcast, earnestly "wanting something to happen". When CK returned about 7 p.m., she noticed that her housemates were not yet home. She opened the front door, stepped into the living room, and was surprised to see a passionflower in a glass tumbler filled with water setting in the middle of the rug. The glass was from her dish collection and a passionflower tree was in bloom in the backyard so she felt that a visitor could have left it in her absence; however, she had a vague feeling that MM was somehow involved. (A few weeks later she discovered that a friend was responsible for the decoration.) CK climbed the stairs to her bedroom, opened the door, and immediately noticed that the hinged door to her small closet was hanging open. That closet had not been used for months and she knew that the ordinarily latched door required a substantial pull to release it. She also saw her sewing basket lying upright in the middle of the room.

Various sewing materials were neatly arranged on the floor around the basket and the remaining materials seemed undisturbed inside it. For at least the previous six months the basket had remained untouched in its storage place at the back of CK's dresser. She was convinced that something paranormal had occurred that afternoon.

Week of June 13

On the evening of June 13, Dr. Stanley Krippner (SK) and a few other people joined MM for dinner and then accompanied him to a radio interview. Afterwards, SK, JH, MP and MM went to Mickey Hart's recording studio for the first discussions of MM's possible "automatic music" as previously described. That night, SK dreamt about his stepson, Bob Harris (BH), who called the next morning. SK described it in his dream diary as follows: "I am in a car with Bob and his girlfriend, a beautiful young woman who resembled Barbara Ponting, one of my HPI students. The very next morning Bob calls from New Orleans." SK recorded a dream of Bob the previous April 1. He felt that the dream possibly contained a psychic message of BH's impending call and stated that his receptivity to the information may have been heightened by his association with MM that evening. SK reports that he has occasional, but not frequent, precognitive dreams.

At 8 p.m. on June 14, eight hundred and fifty people gathered at the Marin County Civic auditorium for an evening of conversation with MM. SK moderated the event in which MM told his personal story, answered questions from the audience and attempted some psychic stunts. To record the event JH brought his two Sony cassette

recorders, a TC-152SD and a TC-127. He tested them at his home a few hours before the show and found them in perfect working order. However, when JH plugged them into the auditorium's sound system, the record mode on both recorders broadcast static through the house speakers. No one could figure out how the tape recorders had become wired to the house speakers. The sound crew checked the connections, replaced the patch cords, and made other adjustments without success. All the other cassette functions operated perfectly and the only explanation was a possible malfunction within the tape recorders. They did not work properly through the entire evening but resumed their normal functioning at JH's house after the event that evening.

In his introduction to MM, SK mentioned that unusual events might occur during the program. He directed everyone to note the contents of their belongings and immediately report any changes throughout the evening. Toward the end of his presentation, MM asked if any unusual events had occurred but no one in the audience volunteered anything. To conclude the program the audience attempted to receive three separate telepathic images sent by MM and then tried to affect a Ping-Pong ball which hung from a thin thread inside a plastic cylindrical container on the stage. The telepathy attempts appeared to be moderately successful, judging from the informal audience response. The PK attempt, created with intense group concentration, made no observable effect on the ball. When SK left the auditorium that night he noticed that his watch indicated the time as 10:20 p.m. He remarked to his stepdaughter that he was glad they would arrive home in time to watch "Mary Hartman, Mary Hartman" on TV at 11:00. However, when they reached the house it was midnight according to the kitchen clock, and SK realized that his watch had lost one hour and twenty minutes during the evening. He remembered checking the time at 8:10 p.m. as the event began. The watch was well wound that evening and had rarely malfunctioned since its purchase twelve years before. SK felt that the watch had been affected by the evening's activities.

Jack Kerolis (JK), co-producer of the event, stayed backstage the entire evening helping to coordinate the production. Under his arm he carried a leather folder which contained only a pad of legal-sized paper on which he occasionally wrote comments of the evening's activities. The folder never left his hands until he packed it in his briefcase to go home following the show. When he emptied the folder at his house later that night, an unfamiliar printed page emerged with his notes. The page contained a description of the Human Dimensions Institute West, a personal growth-oriented organization in Southern California. JK was familiar with the Institute but had never before seen its literature. Unknown to him at the time, the Institute's director, Lucio Gatto (LG), attended MM's evening talk with copies of that paper in his briefcase. When LG and JK were introduced a short time later, JK realized the connection and

related his experience with the Institute's brochure. In the ensuing conversation they discovered that JK had been the previous tenant on the property where the Institute is currently located. LG claimed no knowledge of how the paper appeared in JK's folder and JK remains convinced that it did not occur by ordinary means.

MM left the Marin Civic Center with MP and JH since he was staying with them until his departure on June 17. Because a light rain was falling, JH turned on the windshield wipers. Both wipers functioned normally for the first time since June 9. When JH had last tested them at 7:30 p.m. that evening, only one wiper was operating. The passengers speculated that the apparent repair may have resulted from the evening's events.

MM, JH, and MP arrived home shortly after midnight and found the kitchen floor flooded with water. The faucet was dripping approximately one drop per second and the drain was clogged with dishes which caused the overflow. The house had been unoccupied since 9 a.m. that morning. MP recalled that different faucets had occasionally dripped during her five-year residency in the house, but never with such a serious result. In addition, due to Marin County's strict water rationing program, MP and JH had recently repaired every leak on the property and had become extremely conscious of water conservation. Recalling the similar plumbing difficulty which allegedly occurred during one of MM's radio interviews, JH felt that his incident could have resulted from some nonordinary cause. MP believed that it was more likely due to human error.

In the June 23 edition of the Pacific Sun, a Marin County weekly newspaper, Joanne Williams included the following story in her column:

> **THANK YOU** Matthew Manning, wherever you are. Two days after I attended psychic Matthew Manning's appearance at the Civic Center last Tuesday and was warned by parapsychologist Stanley Krippner (who introduced Manning) that lost possessions might suddenly reappear, two possessions did reappear. My son's new calligraphy pen, purchased after thoughtful accumulation of allowance, was found in plain sight at school the next day, although a previous search had revealed nothing. Next day my husband's sterling silver Cross pen, a keepsake, also reappeared after a week of being lost. It turned up in a place none of us would have put it.

KPIX television, the CBS affiliate station in San Francisco, videotaped an interview with MM on the morning of June 15. It was taped in color with equipment used daily by the recording crew. Present throughout the taping session were MM, an interviewer, one cameraman, and one soundwoman. JH drove MM to the taping location, left soon after the interview began, and returned during the last few minutes. As JH reentered the room, the soundwoman motioned him over to her. She explained that

early in the discussion MM described some of the strange phenomena which occasionally occurred in his presence. He suggested that something may have even happened to the portion of the tape already recorded. When they replayed it, the image appeared in black and white instead of color. During recording a color signal was transmitted, as evidence on the color monitors indicated that the camera and monitor were operating normally. To check for a malfunction in the tape deck, a different videotape was used and it played in perfect color. JH asked the camera crew to watch MM's tape while he took MM into an adjoining room. As they left the area, interference is reported to have appeared on the screen and color dots seemed to overlay the black and white picture. This lasted for about twenty-five seconds and then the original noncolor image returned and remained whether or not MM was present. When the tape was played at the studio later, it appeared in color and all of the recording equipment functioned normally again. The soundwoman remarked that she truly believed in psychic phenomena after witnessing that interview.

References

Geller, U. My Story. New York: Praeger, 1975.

Manning, M. In the Minds of Millions. London: Van Duren Contract Publications, 1977.

Mishlove, J. The history, theory, evaluation and design of psi development systems: An interdisciplinary approach. Dissertation draft. San Francisco: Washington Research Center, 1978. 466 pages.

Price, E. A. The investigation of "mini-Gellers" in South Africa 18 months after their manifestation. In J. D. Morris, W. G. Roll, and R. L. Morris, (Eds.), Research in Parapsychology 1976. Metuchen, N.J.: Scarecrow Press, 1977.

VERBAL PATTERNS IN PSI-MEDIATED EVENTS INVOLVING MATTHEW MANNING

Barbara Honegger
Washington Research Center
3101 Washington Street
San Francisco, CA 94115

Abstract

Commenting on the previous selection of anecdotal reports, a theory of linguistic analysis of psi events is discussed. Linguistic motifs in the spontaneous material are then presented.

Introduction

A number of prima facie psi phenomena experienced by persons associated with Matthew Manning repeat elements of the poltergeist events he himself experienced beginning in 1967, at the age of 11 years. An analysis of the poltergeist events, together with events later experienced by those who came into contact with Manning, reveal interesting patterns related to underlying psychodynamics which may have determined the selection of the phenomena.

The theory upon which verbal associations like those presented herein are based is detailed in "Spontaneous waking-state psi as interhemispheric verbal communication: Is there another system?" presented by the author at the 1979 convention of the Parapsychological Association and available from the Washington Research Center.

The general theoretical position is that spontaneous, waking-state paranormal phenomena are ways in which a postulated right hemisphere language system (in normal right-handers) communicates its intentions, wishes, commands, judgments, and commentary to the left hemisphere language comprehension area of the human brain. Lacking access to the vocal musculature during normal functioning of the left hemisphere language system, the right hemisphere language system must recode its thoughts in order to communicate to the ego (the language system of the left hemisphere). One of these ways is to position the physical body in space and time so as to frame for the left hemisphere's primary sensory systems select portions of Normal-Everyday-Awake (NEA) experience into which verbal deep structures can best be encoded, thus overcoming neurological inhibition of direct right-to-left verbal communication across the corpus callosum of the brain during NEA.

Such events, which are often improbable or otherwise physically anomalous, are perceived by the ego as being numinous, or anomalously meaningful. Their specific meaning, however, often appears camouflaged to the left hemisphere, as the right hemisphere must encode its messages into the structure of events themselves. Only

by means of free associations, like those applied to the psychoanalysis of the manifest content of dreams, can the ego decode the messages intended for it.

We call such events synchronicities, and the right hemisphere-initiated/left hemisphere-rationalized motor behavior necessary to actualize them, Psi-Mediated Instrumental Response, or PMIR.

The right hemisphere thus constructs verbal propositions which it encodes into the primarily visual language of NEA experience, creating a rebus (picture puzzle)-like structure isomorphic to the manifest or surface content of dreams. In so doing it experiences all the difficulties attendant upon any translation from one language or modality into another; and, because no translation is ever perfect, especially when the languages are so different, the left hemisphere often experiences messages from the right as "camouflaged", which is what Freud also thought of dreams. Likewise, the verbal decodings of the left hemisphere may often appear forced upon the data for those unfamiliar with their efficacy in making sense of psi-mediated events over a broad range of cases.

Only in dissociated states, where the integrity of the left hemisphere language system is severely compromised, can the right hemisphere language system gain control of the vocal musculature and speak directly to the world.

This short account catalogues the more obvious cross-correspondences amongst reports of Manning's own experience and reports of persons associated with him during his visit to the San Francisco Bay Area in May and June of 1977.

The Link

The following patterns can be abstracted by linguistic analysis from Manning's book, The Link (1974).

The "Potter" Motif

Matthew's father (Latin: Pater, similar to Polter), Derek Manning, is an architect and potentially a frustrated artist who read Poltergeist Over England shortly after the Second World War. The first poltergeist events in the Manning household involved Derek Manning's silver tankard, an object which he alone handled, always between the hours of 7:00 and 7:30 a.m., when he alone was up and about the house. The poltergeist later developed into automatic drawing. The possibility therefore exists that Derek Manning served as the "control" for the subsequent poltergeist events and that Matthew served as the "medium" (at least at the outset).

Prior to the first manifestation of poltergeist activity in the Manning household and the subsequent redirection of these energies into complex mental phenomena, Matthew excelled in a single activity: he was a naturally accomplished potter. Note that Matthew Manning, the potter, throws pots; and that a poltergeist also "throws" pots.

The War Motif

During the poltergeist disturbances Matthew wrote that his family was "seized with a sense of always having to look over our shoulders, to see if we were going to get hit". This statement is suggestive of the apprehension of soldiers on the front lines in time of war. The fact that the object whose spontaneous movements initiated the poltergeist was Derek Manning's tankard, combined with the fact that he had read Poltergeist Over England immediately following the war, also suggests an association of the poltergeist events to Derek Manning's experiences during the war, or to stories he had read or heard of such experiences. Matthew himself described their house as a "field of battle" (The Link, p. 43).

The "Jesus Christ" Motif

Matthew's other distinction is his appearance: he has the face and presence of popular depictions of Jesus Christ. Following the development of automatic drawing, Matthew channeled "great masters". Note that Jesus Christ is a great master, and that Matthew Manning produced, through automatic writing, great masters.

The first outbreak of poltergeist phenomena ceased spontaneously in the Manning household on Easter, 1967, a holiday associated with Jesus Christ.

During the poltergeist outbreak at his boarding school, an apparition of white light and a crown of thorns (seen by Matthew) and a white light and centered cross (seen by the house matron) appeared above the sleeping head of a schoolmate named Chris (The Link, p. 62). This was immediately followed by the appearance, near Matthew's bed, of a book called The St. John and St. Matthew Passion, on the cover of which was a cross and a crown of thorns.

The "Geller" Motif

Preliminary attempts (Whitton, 1974) to locate the "ramp function" registered by EEG just prior to Matthew's successful PK (metal bending) attempts at the New Horizons Institute in Toronto resulted in its location in the so-called "old brain", also called, in German, das Ur Gehirn (similar to Uri Geller). Matthew identified with Geller, successfully attempting a number of times to duplicate his metal bending (similar to mental bending) feats.

Symmetry of Motifs

Manning (1977) reports that twelve hundred viewers of a television program in which he participated called in to the station reporting shattering of glass in their homes. Glass is normally shattered by high frequency sound waves, which may be outside of the human audible range. In an anecdotal case of May 18, 1977, RA, who

had just been with Matthew, reported hearing high frequency sounds at the home of Professor Fred Lorenz. Matthew reported that he and his family heard similar high frequency sounds during the poltergeist outbreak in his home in England years before.

Many other anecdotal cases reported during Manning's Bay Area visit of May and June 1977, involve changes in glass.

Chronological sequence of anecdotal reports of May-June 1977

May 18. RA hears high frequency sounds, like pings or taps, and shortly thereafter experiences spontaneous rotation (malfunction) of computer tapes at work.

May 21. CG's right glass contact lens bends (malfunctions), later straightening.

Week of May 23. Matthew and JP listen to a record by Uri Geller, who is associated in their minds with spontaneous repair of watches and clocks. JP's unwound wall clock suddenly begins ticking. JP's key bends, another event associated with Geller.

June 8. During a taped interview between Matthew and JM, a listener reports that she is unable to turn off her tap. Matthew reported a similar experience with taps turning on and off spontaneously during his earlier poltergeist (The Link, p. 44).

June 9. JH's left windshield wiper stops (malfunctions); i.e., JH is unable to turn on the left windshield wiper on his glass windshield. This event is both symmetrical to the listener of the day before being unable to turn off her tap and structurally similar to one, not both, of CG's glass contact lenses bending, rendering both CG and JH able to "see out of one side only."

June 13. JH's tape recorder malfunctions during a talk with Matthew, resuming normal functioning thereafter. SK's watch malfunctions (symmetrical to the May 23 event). JH's windshield wiper resumes normal functioning, similar to CG's contact lens later straightening (May 21). JH and MP's tap drips water in their absence, flooding the kitchen floor. Matthew reports having experienced similar instances of water (and other liquids) spontaneously appearing on the floor of his home during the earlier poltergeist (The Link, p. 45).

June 15. Color tape in TV studio where Matthew is being videotaped plays in black and white when it should be in color, due to a malfunction in the tape deck. This event is symmetrical to reports by a number of viewers that their black and white TV sets have broadcast in color during programs where Matthew has appeared (Manning, 1977).

The structural similarity between the events experienced by Matthew during the early poltergeist and those experienced by persons later associated with him strongly suggests his role as the link in the selection of the later phenomena.

References

Honegger, B. Spontaneous waking-state psi as interhemispheric verbal communication: Is there another system? In W. G. Roll (Ed.), Research in Parapsychology 1979. Metuchen, N.J.: Scarecrow Press, 1980 (in press). The full paper is available from the Washington Research Center, 3101 Washington Street, San Francisco, CA 94115 for $1.95.

Manning, M. The Link. New York: Ballantine Books, 1974.

Manning, M. In The Minds of Millions. London: Van Duren Contract Publications, 1977.

Whitton, J. H. "Ramp functions" in EEG power spectra during actual or attempted paranormal events. New Horizons, July 1974, 1(4), 174-183.

PART TWO -- ESP TESTS

AN ESP EXPERIMENT WITH MATTHEW MANNING

James L. Hickman
Washington Research Center
3101 Washington Street
San Francisco, CA 94115

Abstract

Highly significant results were obtained with MM in a GESP experiment in which the task was to determine which of ten sealed canisters contained water.

Method

Targ and Puthoff (1973) have reported the apparent ability of Uri Geller to determine which one of ten sealed cans contained water. We decided to attempt a similar experiment over a four-day period. The first evening, June 8, was designated a practice session to determine an effective protocol. After many trials using styrofoam cups to conceal various objects, we developed a procedure for the experimental runs.

Experimenter JH selected ten similar opaque 35 mm film canisters with tight-fitting lids. While MM waited in a separate room JH partially filled one canister with water, sealed it securely, and carefully cleaned the exterior surface. Using a random number table, JH aligned the canisters in a random sequence on a rigid, flat surface. MM entered the room and sat in a chair facing the canisters. MM removed the empty canisters individually and set them aside, leaving the target canister as his final choice. MM left the room, the water was transferred to another canister, and a new random sequence was chosen for the next trial.

The canisters were arranged in a single line. The experiment is weak, insofar as JH, who placed the canisters, was not blind as to which canister contained the water, and may have subconsciously placed that canister somewhat differently than the others. Care was taken to guard against that possibility, but only by visual inspection. In future experiments of this sort, the canisters should be placed by an assistant who is blind as to the actual target.

We agreed on additional guidelines to insure the effectiveness of the protocol. The number of experimental trials for each session was established at the beginning of the evening. Any physical contact with the table or accidental vibration of the canisters during a trial terminated that trial. If MM touched any of the canisters, that constituted a choice. If MM declined to select any canisters at all on a given trial, that trial was not counted in the run and a new random sequence was determined.

Results

Over the next three days, four experimental sessions were conducted. The first session consisted of two ten-trial runs. MM chose correctly once during the first run and twice during the second run. The second session also consisted of two ten-trial runs, but with four correct choices during each run. The third session of one fifteen-trial run yielded seven hits. In the final session two ten-trial runs were again conducted. MM correctly selected the target eight times during each run missing by only one canister on the other four attempts. At MM's suggestion an additional ten-trial run was conducted with a ball bearing replacing the water as a target. Eight hits were again obtained. He passed five times over the four-session sequence.

It was not possible for MM to watch JH prepare the targets through a keyhole or crack in the door, as the target preparation would not have been visible from this perspective. There may have been other opportunities for MM to cheat, if he desired, since no one was with him when he left the room.

Trials	Hits	
10	1	Session I
10	2	
10	4	Session II
10	4	
15	7	Session III
10	8	Session IV
10	8	
10	8	Ball bearing (Session IV)
85	42	Total

Applying binomial statistical analysis to individual sessions, the first session (3 out of 20) was not significant; the second session (8 out of 20) was significant, binomial $p = 0.00042$; the third session (7 out of 15) shows binomial $p = 0.00031$; and the fourth session (16 out of 20) shows $p = 3.26 \times 10^{-13}$. (The run with the ball bearing is not included since it was a deviation from the established protocol. However the odds of obtaining eight hits on this run are 3.74×10^{-7}.) Overall, MM had 34 hits in 75 attempts yielding a probability value of 3.83×10^{-15}. Adding the ball bearing run brings the total to 42 hits in 85 attempts, $p = 4.02 \times 10^{-20}$.

These results are indicative of MM's ability to quickly learn a new ESP task. He expressed a strong desire to succeed in this experiment and was unperturbed by his early failures. By the third session he had identified a "strong impulse" for the

target which he occasionally experienced as soon as he saw the canisters. Whenever this occurred, his selection was correct. At other times he described perceiving a faint field around one canister which was frequently the target, but not always. Sometimes he perceived no unusual information and just guessed at the target, usually incorrectly.

References

Targ, R. and Puthoff, H. ESP experiments with Uri Geller. In W. G. Roll, R. L. Morris and J. D. Morris (Eds.), Research in Parapsychology 1973. Metuchen, N.J.: The Scarecrow Press, 1974.

REMOTE PERCEPTION OF TARGET DRAWINGS BY MATTHEW MANNING

E. A. Rauscher
Nuclear Science Division
Lawrence Berkeley Laboratory
University of California, Berkeley 94720

Abstract

MM participated in two free-response sessions involving six experimental trials. An independent judge was able to match all three responses correctly with their intended targets for the first series (binomial probability = .0369, one-tailed). In the second series, the judge was not able to obtain significant matching. In an appendix to this paper, the judge describes the logic of her decisions.

Introduction

Two experimental sessions were held with MM; the first on July 8, 1977, at the Radio Physics Laboratory at SRI International, Menlo Park, CA, with Russell Targ (RT) assisting and the second on July 12, 1977, at the Washington Research Center, San Francisco, with G. Scott Hubbard (GSH), of Lawrence Berkeley Laboratory, assisting.

The six trials involved the remote perception of target drawings. It was purported that MM had exhibited automatic drawing skills and it had been suggested that these drawings may be a form of remote perception rather than of direction by "discarnate spirits" as some people might suppose. MM expressed interest in attempting to reproduce the style and content of concealed drawings by a living artist.

Since he showed me elaborate ink sketches that he said he had produced under automatic writing conditions, I decided to make several ink sketches to use as remote targets. Because MM has a reputation for being a skilled and experienced subject, it was decided that the targets should be detailed in subject matter.

I decided to test whether different types of shields produced different qualities of remote perception. It may be possible to test if some substances inhibit psychic functioning or if targets are equally well perceived regardless of the types of shield used. In all cases the targets were concealed within a heavy black casing that excluded visible light from the target.

The two experiments were designed to test this purportedly highly gifted subject in a way that would relate to his abilities and interests and which, if successful, would yield information about the detail obtainable in remote perception. If it were found that highly detailed information could be detected, it would be possible to test the effect of different types of mechanical shielding, including light-tight shields. It should be noted that there may be psychological bias toward some types of shielding with the subject either expecting the task to be easy or, conversely, difficult.

Method

The 8 June, 1977, experiment began at 2:30 p.m. Present were EAR, RT and Hal Puthoff (HP) with the subject, MM. EAR and RT were joint monitors and attempted to elicit responses from MM regarding his mental imagery relating to the targets. The targets were resealed in envelopes in such a manner that none of the participants--EAR, RT, or HP--was aware which target was in which envelope or container. The envelopes and containers were enclosed in the desk in the room before MM arrived. Then, one at a time, each target was randomly chosen (by a die toss) so that the targets would be unknown to the monitors. At no time was MM left alone with the targets. All three experimenters were present with the subject at all times.

The previous evening I had prepared three ink drawings, each distinct in subject matter and form. After completing the drawings, I used the "squint-eye" test to see whether the drawings were still comprehensible with my eyes partially closed. The assumption is that psychic perception may be similar to dim or partial direct vision.

The three target pictures used in this experiment were shielded in the following manner:

Faraday Shield

a) Drawing sealed in aluminized mylar folder with black backing.
b) Aluminized mylar sheathing covered by copper plates 2 mm thick.
c) Copper plates covered by black plastic light-tight envelope.
d) Light-tight envelope in a thick brown envelope.

Aluminum

a) Drawing sealed in mylar folder with black backing.
b) Mylar sheathing covered with .01 mm aluminized mylar.
c) Aluminized mylar enclosed in .5 mm aluminum foil with edges sealed with black electrical tape.
d) Aluminum foil packet in a thick brown envelope.

Since I had prepared these targets, RT inserted them in another set of large, plain envelopes out of my sight, so that I could not identify any particular target being used. Prior to the experiment all targets were known only to me.

Aluminum Canister

The third target drawing was concealed in a thick aluminum canister with 1.5 cm-thick walls, an inside depth of 13.5 cm, and a circumference of 10 cm. It was felt that this vacuum-sealed container with eight screws holding the lid in place would look interesting and challenging to the subject.

For the 12 June experiment, three drawings were concealed in the following manner:

Black Casing

a) Aluminized mylar cover inside of an
b) Optically opaque, black cloth inside of a
c) Brown envelope.

Copper Plates

a) Aluminized mylar cover inside of a
b) 2 mm-thick copper plates inside a
c) Brown envelope.

Aluminum Casing

a) Aluminized mylar cover inside of a
b) .5 mm aluminum shield inside of a
c) Brown envelope.

In each case the above packets were resealed in larger brown opaque envelopes outside my view so that I did not know what target was in which envelope. This was done by H. Dakin and GSH.

Results and Discussion

In both sets of experimental responses, the drawings by MM did not look like the skillfully drawn pictures he had shown me earlier and which he said he had produced under automatic drawing conditions. And, in fact, MM did not claim to be engaged in automatic drawing during the experimental sessions.

The Judge, Hope Mullins, also pointed out that the targets of the second set were not as clear in the "squint-eye" test as those of the first set.

It is also interesting to note, as was also pointed out by HM, that the theme of all three responses in the second experiment was death. One wonders if this reflects a current mood, feeling or prior experience of the subject.

The subject appeared not to guess about the targets in the second series based on the first three targets in the first set. Often this is an objection to psychic experiments with feedback.

Manning appeared to work diligently on attempting to obtain psychic impressions during both experiments. In the first experiment he received feedback after drawing each individual target. In the second series, feedback was given after all three targets had been viewed remotely. This is a factor to consider in comparing the results of the first and second experiments.

It appears from the results of this and other experiments that the blind-judging technique is a valuable tool for determining the presence or absence of psi phenomena. The researchers involved in the experiments felt that the first session was successful in producing psychic functioning and that the second was not.

The judge made correct first-place matches in the 8 June experiment (P = .0369, one-tailed) whereas in the second experiment all first place choices were incorrect.

The hoped-for detail in MM's remote perception tasks was insufficient to allow for definitive statements about the effect on psychic functioning of targets shielded in various ways.

Because of the apparent success of the first series, one might conclude that none of these materials are completely "psychically opaque". Also the targets appeared not to be equally well psychically perceived. In Table I, target 3 was less well depicted by the subject than 1 or 2. This could perhaps be accounted for by the thicker aluminum shield which covered this target; but a much more reasonable explanation is that target 3 of Table I was a more difficult psychic target for a subject to adequately draw.

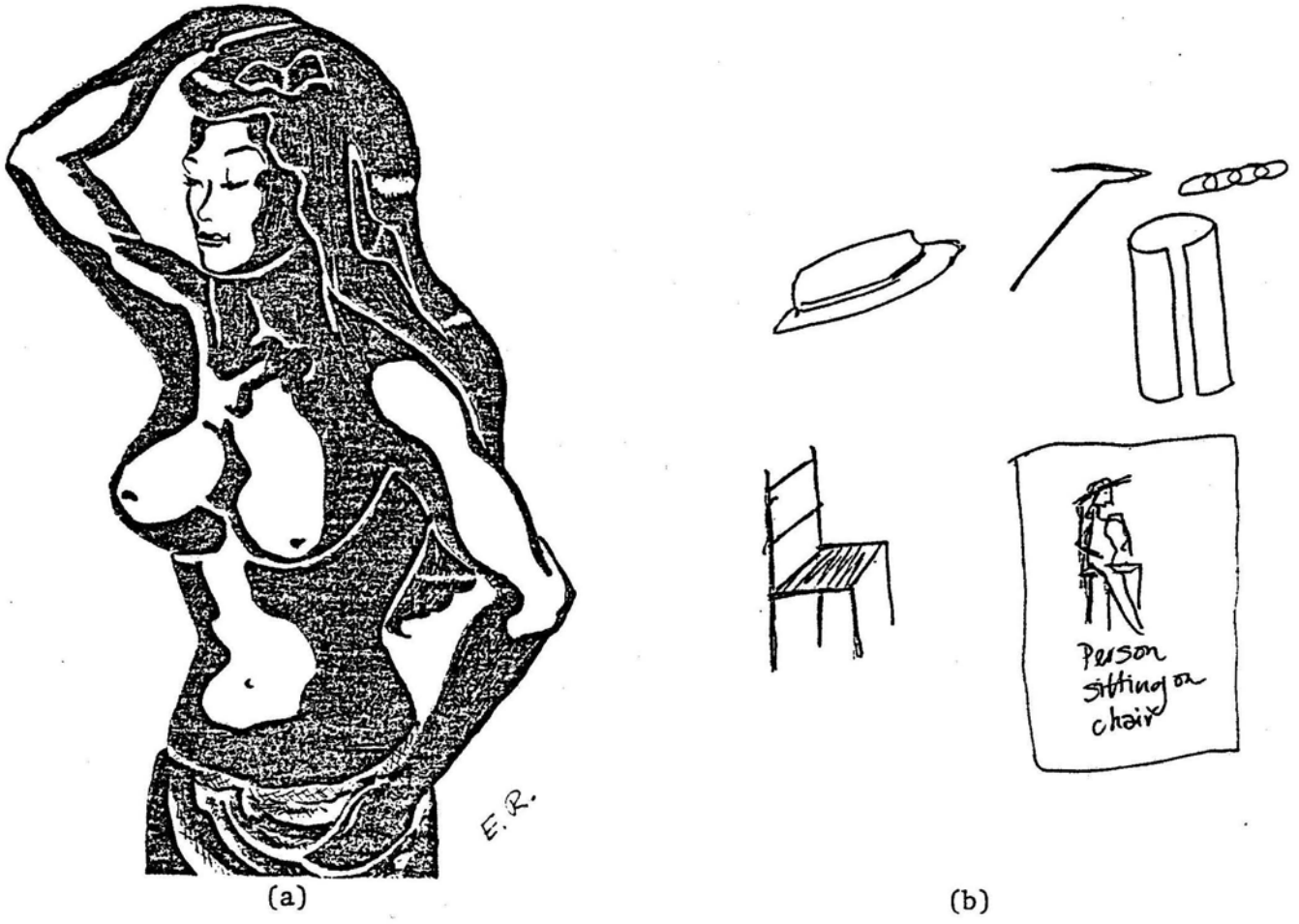
Also, it is felt that MM's poor performance in the second series (Table II) was due not to the difference in shields (some of which were similar to those in Table I), but to some other factor or factors which we were unable to deduce.

TABLE I: June 8, 1977

SHIELD		TARGET	CORRECT MATCHED RESPONSE
1.	Faraday copper shield	Woman (Figure 1a)	Seated woman on chair (Fig 1b)
2.	Aluminum foil shield	Horse (Figure 2a)	"Bull" and car (Fig 2b)
3.	Aluminum canister	Man portrait (Fig 3a)	Apples and trees (Fig 3b)

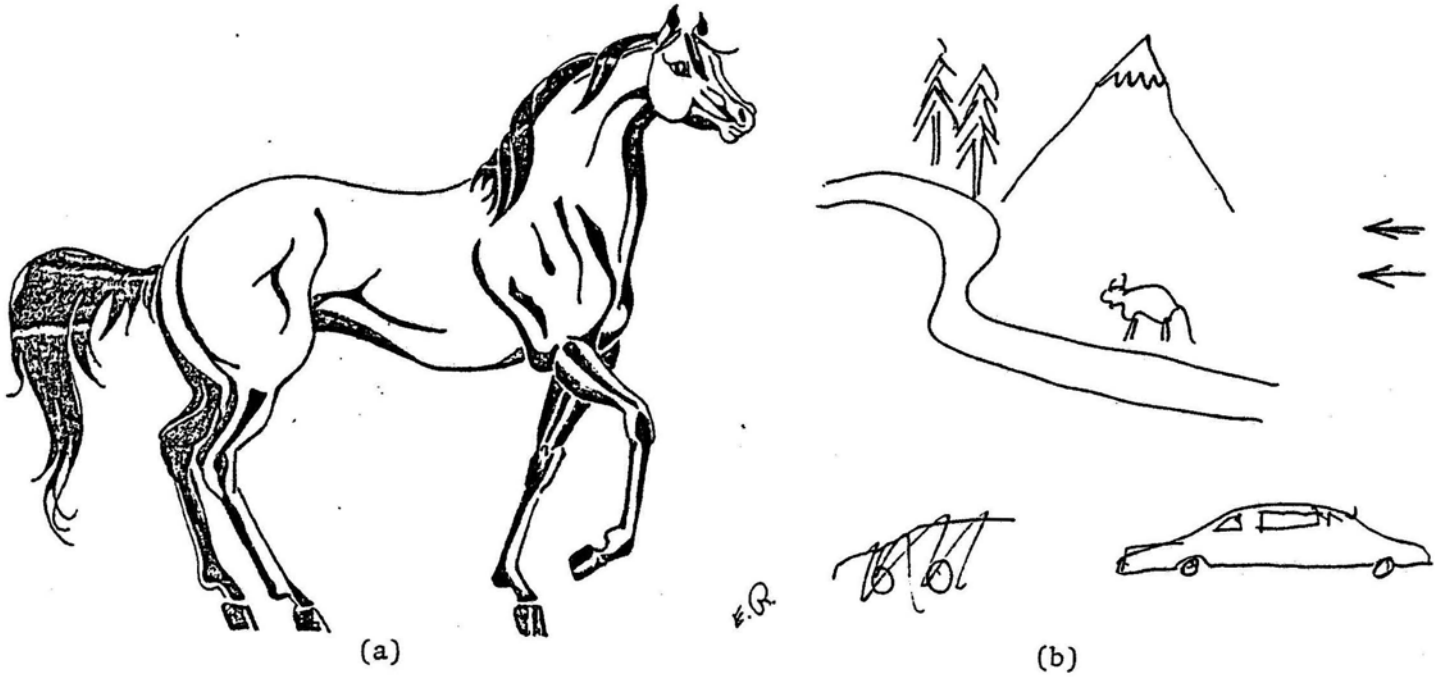
TABLE II: 12 June, 1977

SHIELD		TARGET	CORRECT MATCHED RESPONSE
1.	Black optical shield	Dog (Figure 4a)	Man in box, flask, bird (Fig 4b)
2.	Copper shield	Bamboo (Figure 5a)	Man with wings, cat (Fig 5b)
3.	.5 mm aluminum	Hula dancer (Fig 6a)	Skull, suitcase (Fig 6b)



(a) (b)

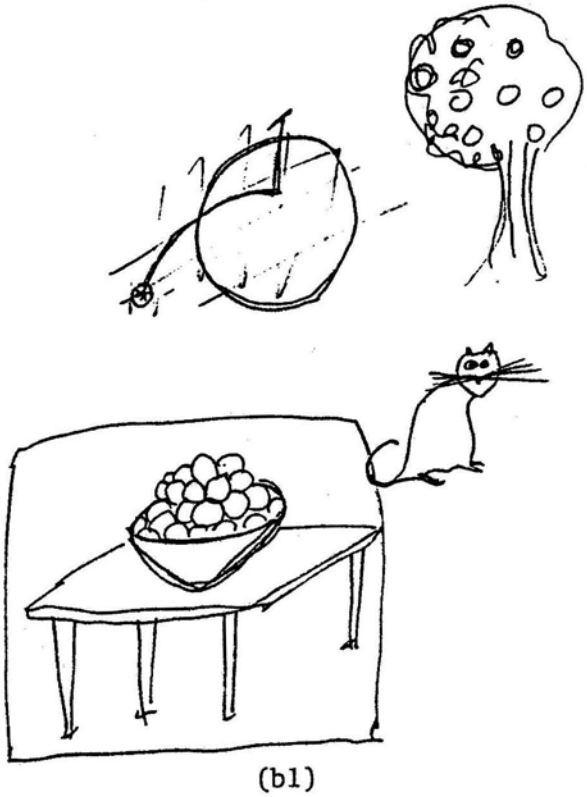
Figure 1. (a) Target. (b) Response.



(a) (b)

Figure 2. (a) Target. (b) Response.

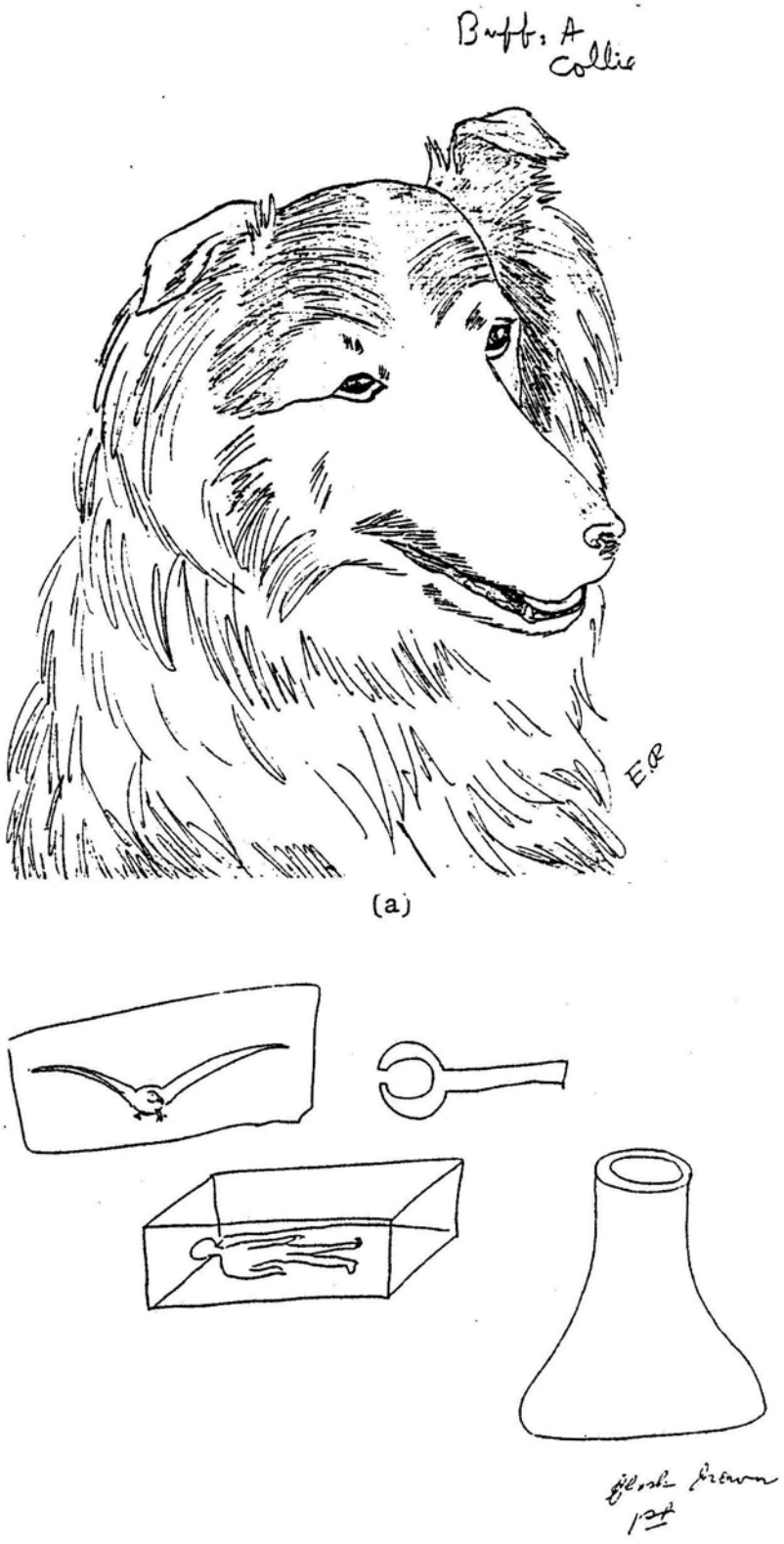
(a)



(b1)

(b2)

Figure 3. (a) Target. (b1) Response. (b2) Response.



(a)

(b)

Figure 4. (a) Target. (b) Response.

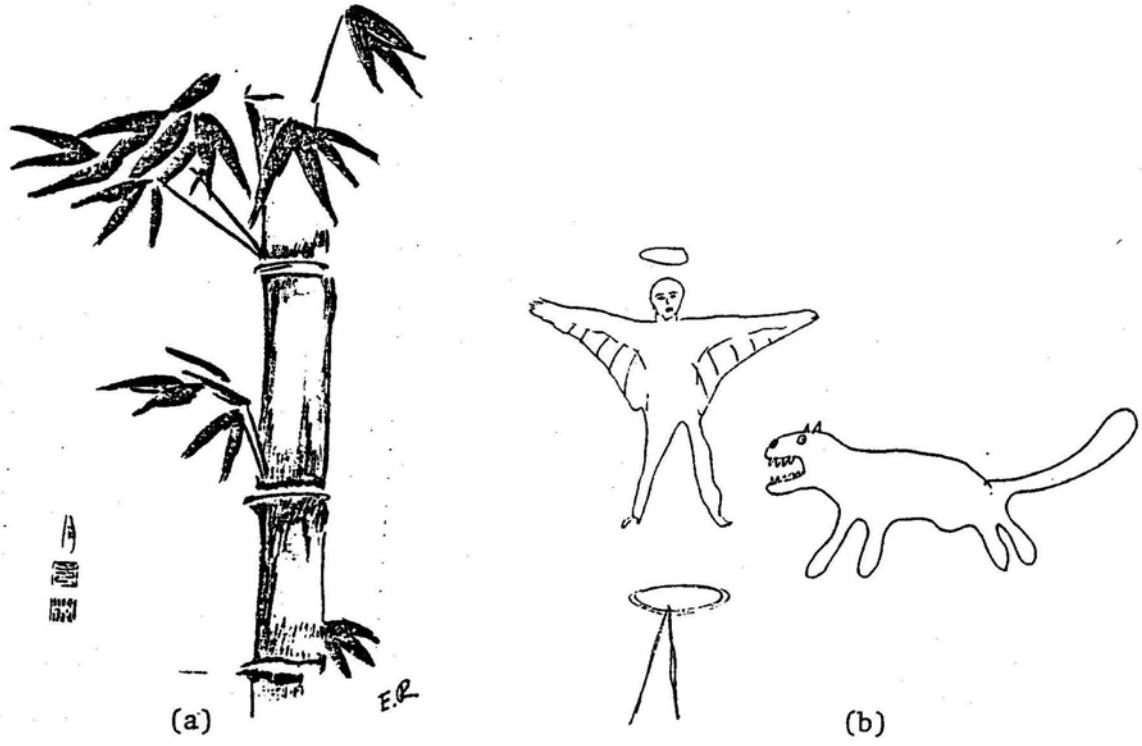


Figure 5. (a) Target. (b) Response.

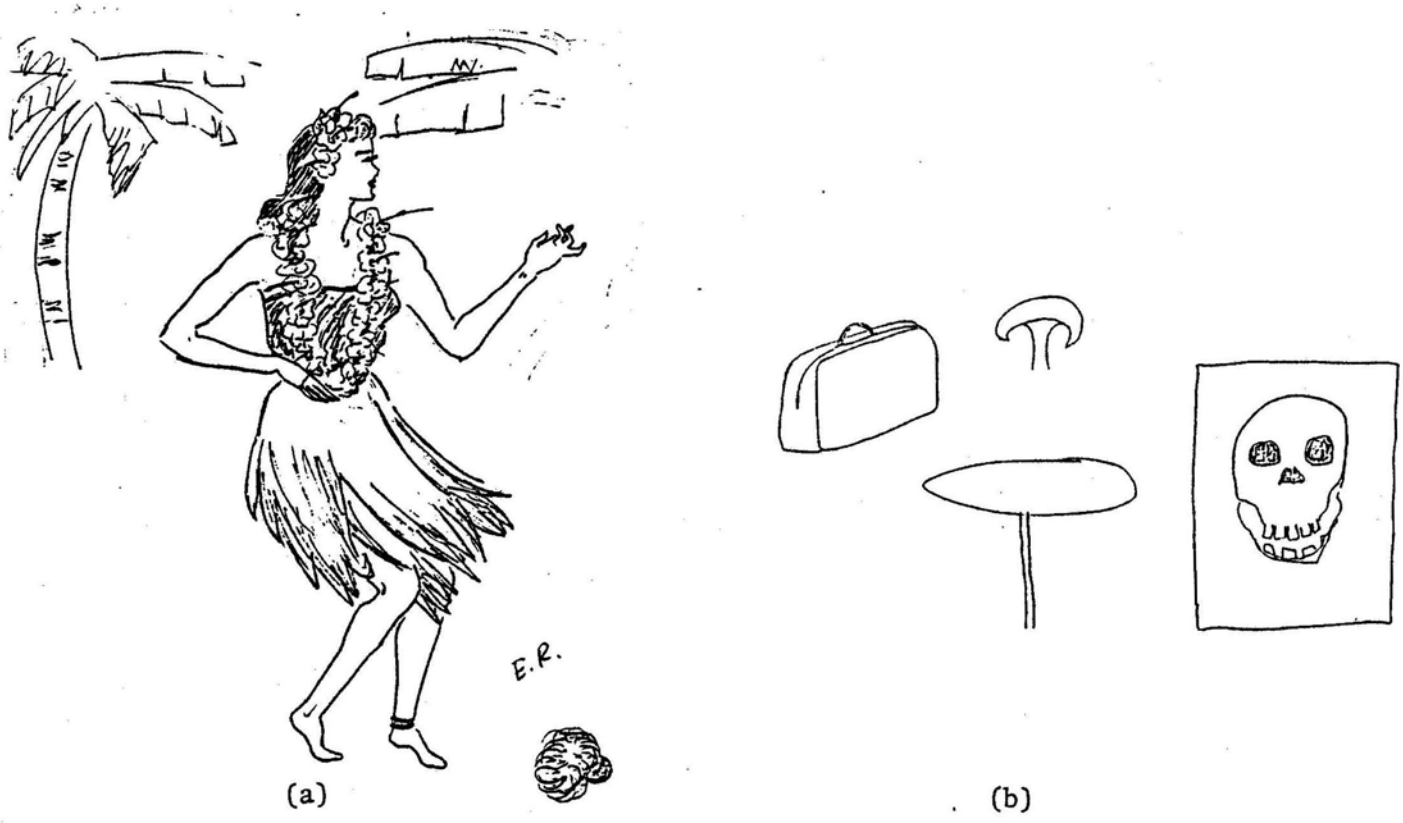


Figure 6. (a) Target. (b) Response.

JUDGING THE REMOTE VIEWING EXPERIMENT

Hope Mullins

Method

Two stacks of brown envelopes that had been well shuffled were given to me to judge on 21 July, 1977. One stack held the target drawings. The other contained MM's responses for the experiment on 8 June, 1977. Prior to this, I had received no information on this experiment. No one was in the room with me while I did the judging. I reshuffled the two stacks and then laid out the contents.

I placed each of Manning's sketches with the target that seemed to make the best match. I felt the matchings were easy to make, and each seemed apparent and logical. When I had completed the judging task I had a strong feeling of confidence that I had placed all responses with the correct targets. It seems to me that this ease of matching indicates psi functioning.

My reasoning in the judging process was as follows:

The target drawing of a young woman gave me a strong feeling of the human form. Only one of MM's sketches shows a human form, and he drew a box around this figure lending emphasis to it. He wrote the words, "person sitting on a chair". By drawing the person seated, he made a break-off point at the figure's hip. The target sketch also breaks the figure off at the hip.

The target picture of a horse shows one foot raised in apparent motion. Only one of MM's sketches shows a large four-legged animal. And only one of his sketches has arrows which indicate direction and motion. The car and road on this page of sketches by MM also indicate movement. I associated the large animal and the suggestions of motion with the target picture of a horse.

The target drawing of a man's head did not have a distinctive outline. Except for the dark neck area, the head is quite circular in shape. Since shape and form seem to be perceived in remote perception, I looked for circular forms in the subject's responses. Two pages of sketches were in the same envelope indicating that they matched a single target. Both pages were dominated with circular shapes, a round bush in a planter pot, many round apples on a tree, circular-shaped bicycle tires, and a tree drawn simplistically with a basically round top. I felt the circular shape of the target had come through and was represented in the circular shapes in these responses. Both of the other targets were identifiable by their outline shapes. Only the head of a man gave no identification of what it was from the simple outline form. This may be why MM's response to this target was not as good as were his responses to the other two targets.

I felt confident that my first place matches were correct. The first, second and third place choices are as follows:

TARGET	MANNING SKETCHES	
Woman	1st:	person sitting
	2nd:	apples and trees
	3rd:	standing animal, car
Horse	1st:	standing animal, car
	2nd:	apples and trees
	3rd:	person sitting
Man	1st:	apples
	2nd:	person sitting
	3rd:	standing animal, car

On 21 July, 1977, I was given two stacks of brown envelopes from the 12 June, 1977, experiments. As before I had not been associated with the experiment until the judging procedure. No one was in the room with me while I judged the contents of the envelopes.

After studying MM's responses and the target pictures, I saw no apparent relationship between them. Though I studied the various elements of the targets and responses, I felt there were no good matches. I did make first-choice matchings but was quite sure they were not correct. However, I could find no way to make pairings for which I felt greater confidence.

Because there seemed to be no apparent matches between targets and responses it appeared that no psi functioning took place in this experiment. Instead it seemed to me that the subject had the theme of death in each of his responses: a human skull, a human form in a grave-like box and an angel with halo and wings. Since the responses have this common theme, it appears they are a reflection of MM's own feeling that day, rather than a response to the widely varied external target pictures. There were no obvious, logical matchings so it was necessary to look for tenuous connections. I reasoned as follows:

TARGET	SUBJECT RESPONSE
Dog	1st: The page with a skull. The target dog has prominent dark eyes and teeth as does the skull.
	2nd: The sketch of a cat. Both dog and cat have fur, walk on four legs, have pointed ears and a long tail.

	3rd: The page with the bird, man in a box and flask-shaped structure. There appear to be no remote connections.
Bamboo	1st: The page with the bird, man in box and flask because of the association of both bamboo and wild birds with nature.
	2nd: The angel-like figure.
	3rd: The page with the skull.
Polynesian dancer	1st: The figure with arms outstretched. Both this figure and the target are human in form, are full-figure and upright.
	2nd: The skull and suitcase. Both the dancer and the skull are human and the suitcase might denote travel to a south sea island.
	3rd: Bird, man in a box, flask.

ESP DISPLACEMENT IN FREE RESPONSE TESTS WITH MATTHEW MANNING

Jeffrey Mishlove
Washington Research Center
3101 Washington Street
San Francisco, California 94115

Abstract

Two free-response ESP experiments were conducted with Matthew Manning which obtained weak overall results. Post-hoc analysis reveals striking examples of possible ESP displacement to targets other than those intended for the experiments.

Introduction

As a result of his prolific and unusual talents in automatic writing and automatic drawing, many people would be tempted to cite the case of MM as providing strong evidence in support of the survival or spiritualistic hypothesis. Works of art created from Matthew's hands in the style of deceased masters such as Picasso, Matisse, Durer, and Beardsley, are reputed to be so authentic as to deceive noted authorities. Hundreds have been produced very rapidly while MM is in a state of mind such that he claims to have no conscious control over what his hands are drawing.

MM himself suggests that, at least in some instances, these works of art are produced by him through some sort of clairvoyant process. He supposes that he may be clairvoyantly finding originals of the artwork he produces hidden in obscure collections. He finds this interpretation preferable to the thought that he is being possessed by the spirits of artists, some of whom have been dead for centuries. (His automatic writing, however, he feels may be mediated through genuine spirit sources.)

Any simple interpretation of this phenomenon is bound to raise issues. Clairvoyance by itself does not explain the high degree of craftsmanship in the automatic drawings as compared to MM's regular artistic ability. Furthermore, rarely in the literature does one find documention that clairvoyance ever attains such detailed and prolific accuracy as in MM's automatic drawings. When such cases do occur the social context is generally one in which spirit mechanisms are invoked. More to the point, could MM demonstrate comparable clairvoyant abilities in experimental tasks?

If MM could demonstrate a high degree of general ESP in some simple tests, such data would support the clairvoyant interpretation of his automatic drawing. In the following tests no extraordinary degree of accuracy was obtained. MM's ESP functioned at about the level of many other good subjects--observable, but not sufficient to account for the quality of the automatic drawings. It's very clear that when MM is producing his automatic drawings he is operating in a different mode than we see in the following experiments.

This data is not presented for its evidential value, but rather because post hoc analysis suggests that a high degree of ESP was operating in ways which could be observed but which were not focused on the specific experimental task.

Experiment One

In the first experiment, a pool of four target illustrations, taken from magazines, was prepared by the author. These targets were sealed in manilla envelopes and brought, by an assistant, one at a time, into the same room with MM and observers. During the experiment, the author never entered the room with MM--in order to avoid any contamination from subliminal cueing. MM was asked to reproduce the illustrations. He chose to respond to three of the targets.

The target pictures and MM's responses are reproduced as well as a fifth illustration. This fifth picture is particularly interesting. This particular picture from a Psychology Today article protests the abusive ways in which scientific researchers sometimes treat their subjects. As the author glanced at this illustration, he was struck with the notion that MM could feel an affinity with the emotions expressed in this picture. MM had frequently spoken with some bitterness of the way he had been treated by scientists in many countries. Prior to the San Francisco research with him, he had refused to relate to scientists for an eighteen-month period. Nevertheless, not wishing to trigger salient negative emotions, the author finally decided not to include this picture in the target pool. It appears that elements from this illustration have been picked up in all of MM's responses--and particularly with regard to the chain and collar of Response (1).

ESP displacement also seems evident in response (3). Target (B), which seems to match with this response, was the one target in the pool to which MM never consciously intended a response. The correct target-response pairs are as follows:

Response (1) -- Target (A)
Response (2) -- Target (D)
Response (3) -- Target (C)

The only match which was correctly guessed by either Matthew or an independent blind judge, Arthur Hastings (AH), was with response (1). Yet clearly an uncontrolled form of psi seems to be in operation throughout the other responses.

Experiment Two

In our second experiment, the target pool consisted of ten illustrations which were sealed in aluminum foil and manilla envelopes. MM chose to attempt to draw reproductions of three of these. His responses and the correct targets are shown. Also included are other targets from the pool to which MM may have shown ESP displacement.

The correct response-target matches for this experiment are as follows:

Response (A) -- Target (61)
Response (B) -- Target (21)
Response (C) -- Target (52)

An independent judge, AH, was asked to blind-match each response against all ten targets from the pool, giving each of the ten targets a rating from 0 to 100 for each of the three responses. The judge, however, deviated from this protocol, as he observed that each response contained elements of several targets. He gave each of the ten targets a rank from one to three, depending on how well they matched a given response, with one being the best match. Using this method he correctly matched all three targets to their response. The chance probability of obtaining those three matches is .036.

ESP displacement may be evident, insofar as Response (A) also resembles Target (15), Response (B) bears a resemblance to Target (4), and Response (C) also resembles Target (71).

The targets and responses for these two experiments are shown in the following illustrations:

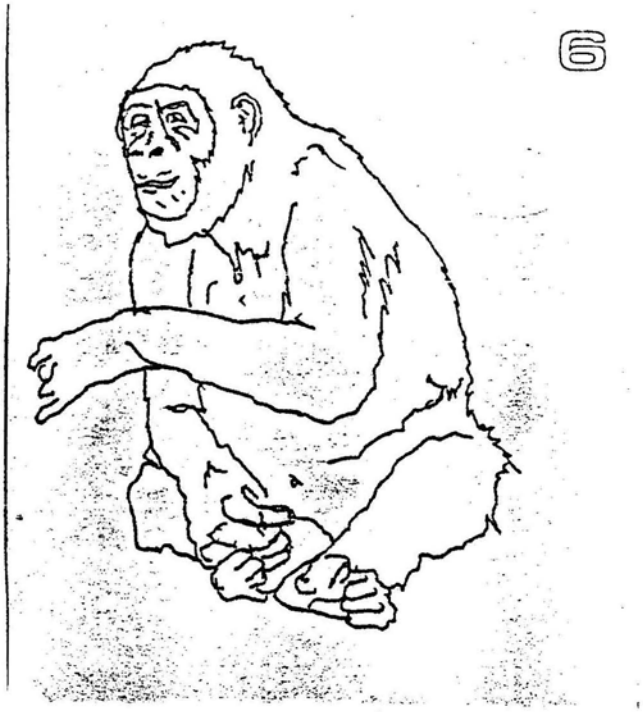


Figure 1. Target (A).

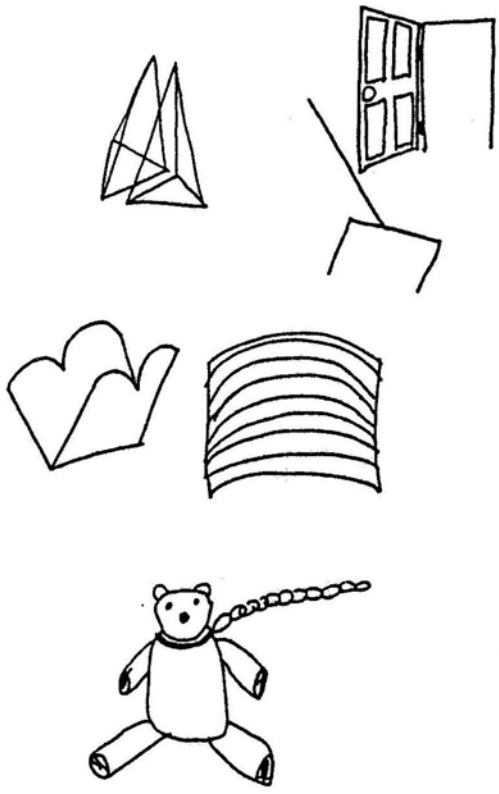


Figure 2. Response (1).

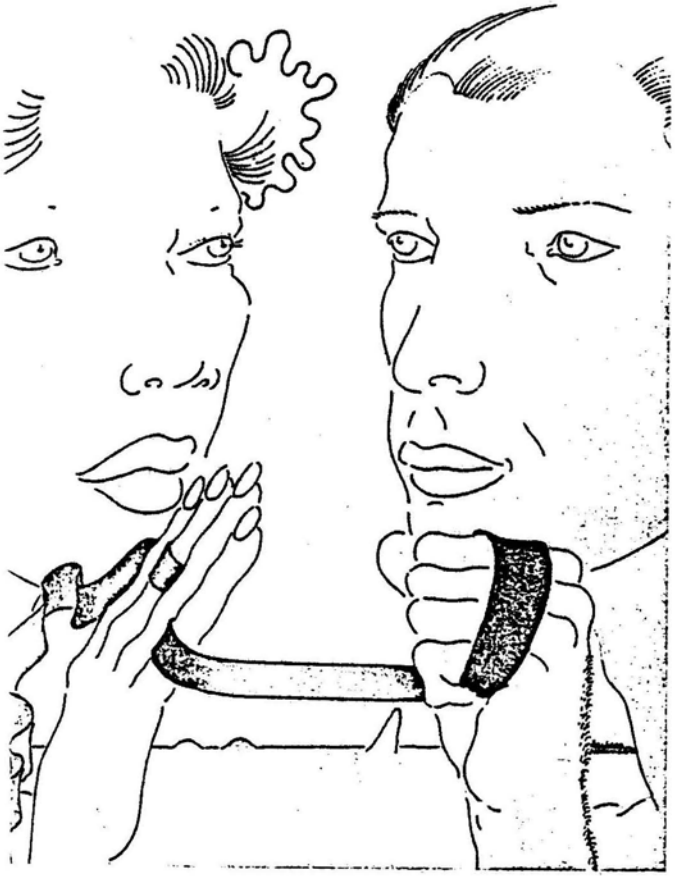


Figure 3. Target (D).

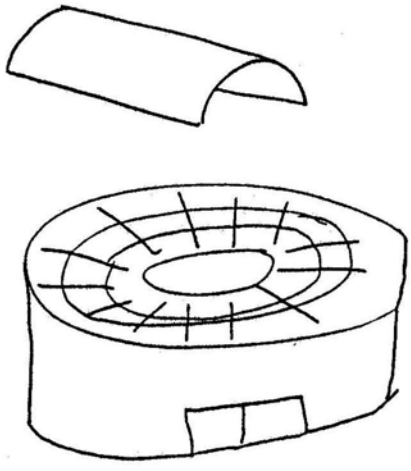


Figure 4. Response (2).

Figure 5. Target (C).

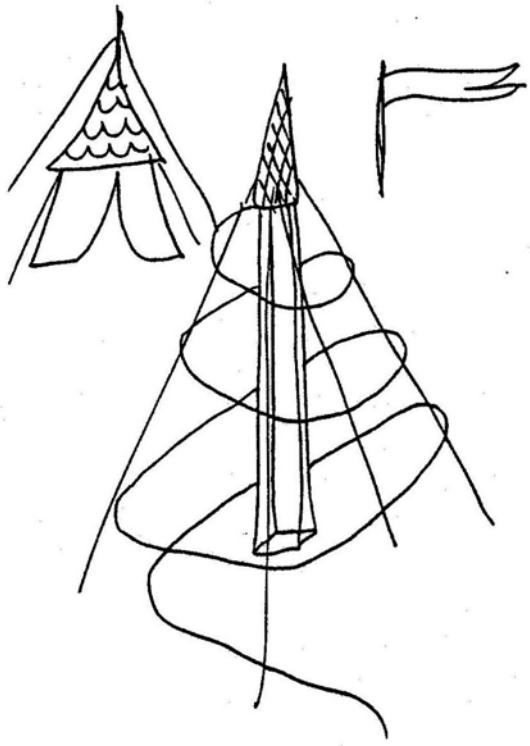


Figure 6. Response (3).

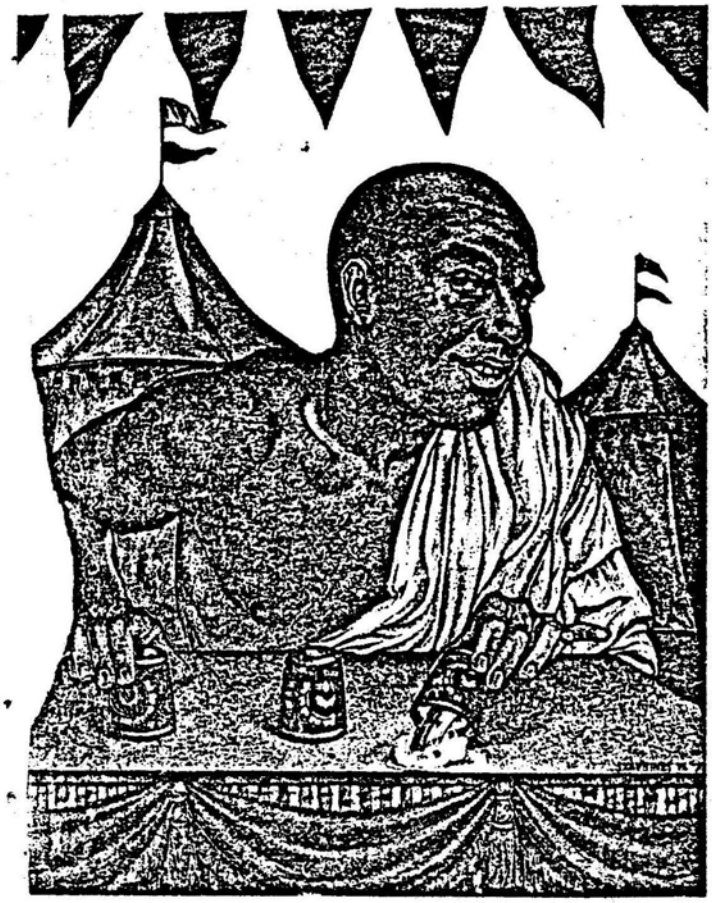


Figure 7. Target (B).

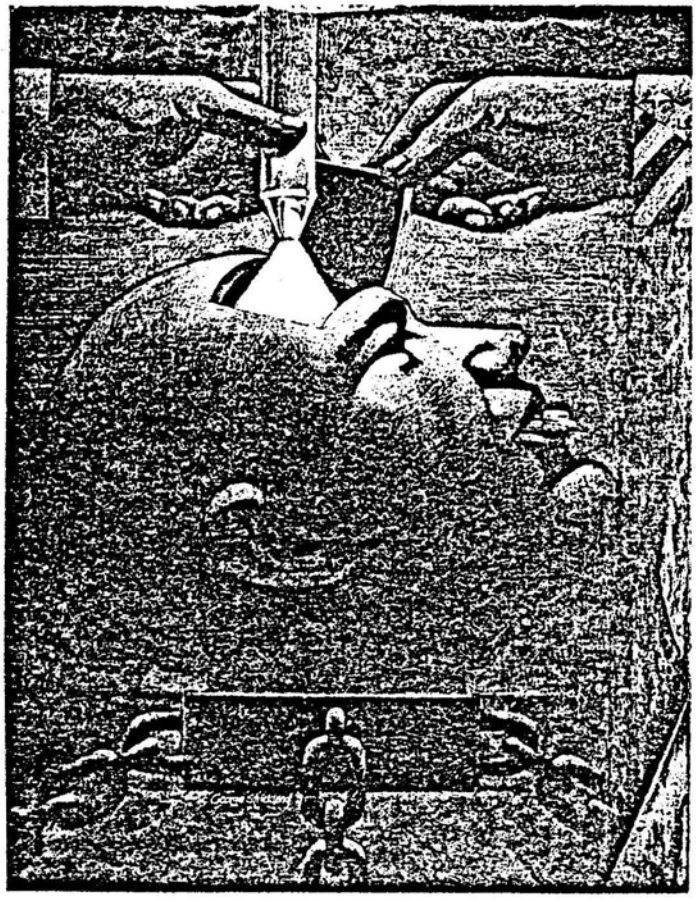


Figure 8. Picture from Psychology Today.

61

Figure 9. Target (61).

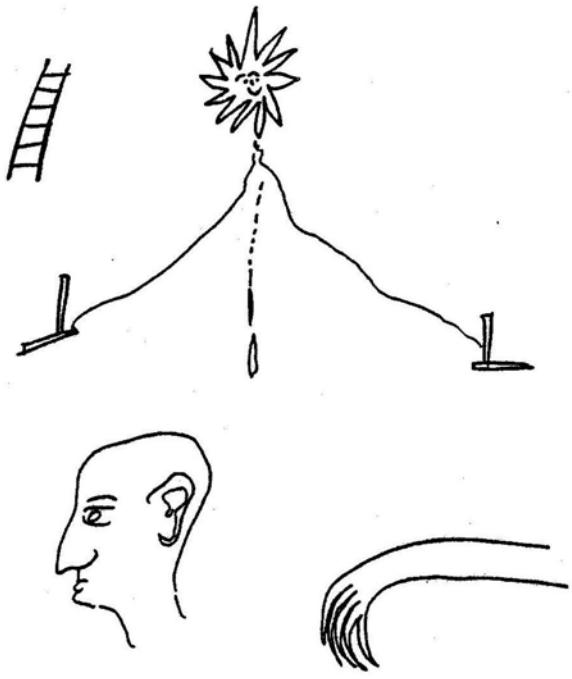


Figure 10. Response (A).

21

Figure 11. Target (21).

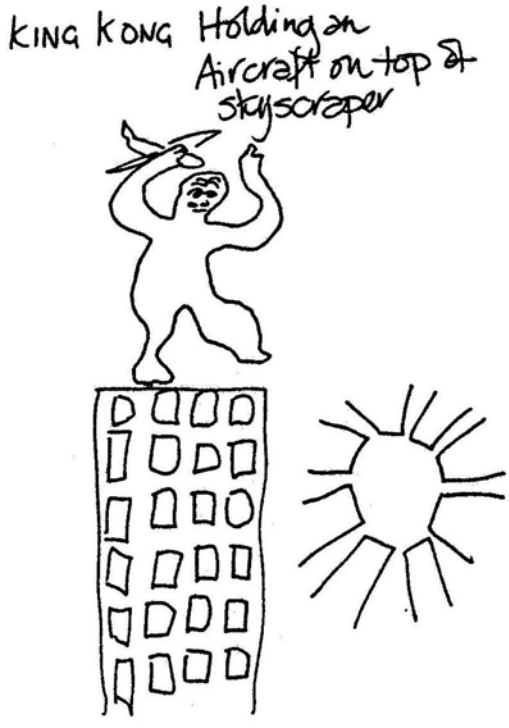


Figure 12. Response (B).

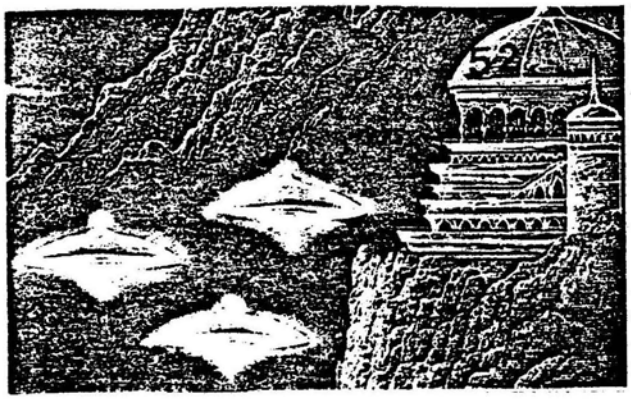


Figure 13. Target (52).

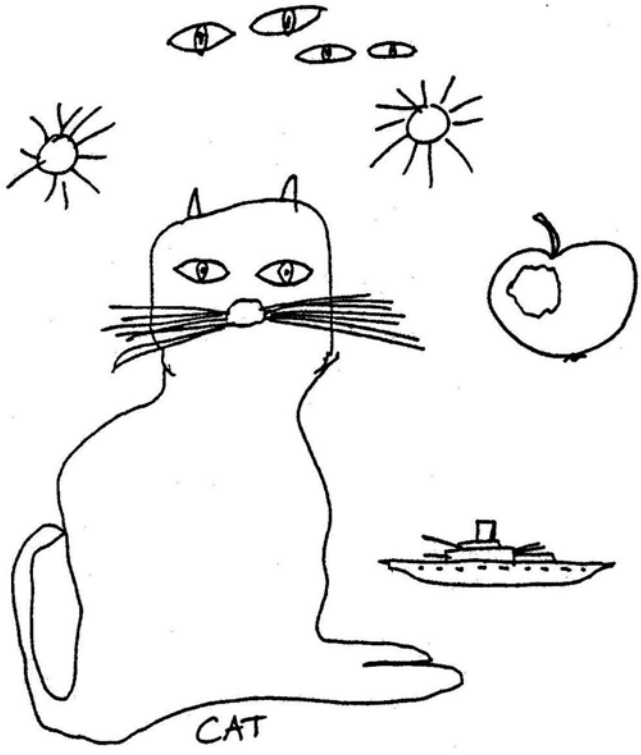


Figure 14. Response (C).

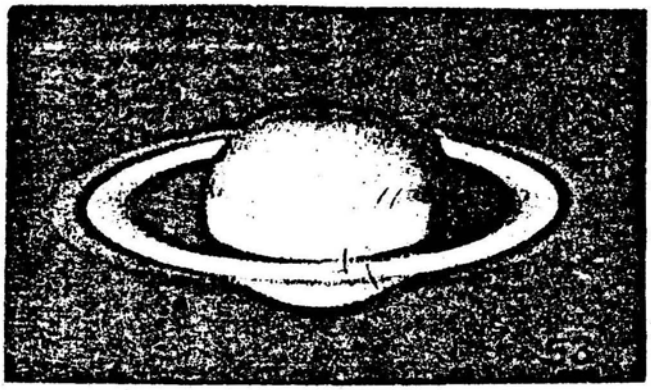


Figure 14. Target (53).

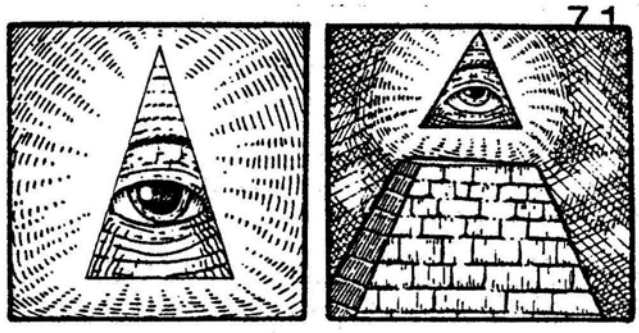


Figure 16. Target (71).

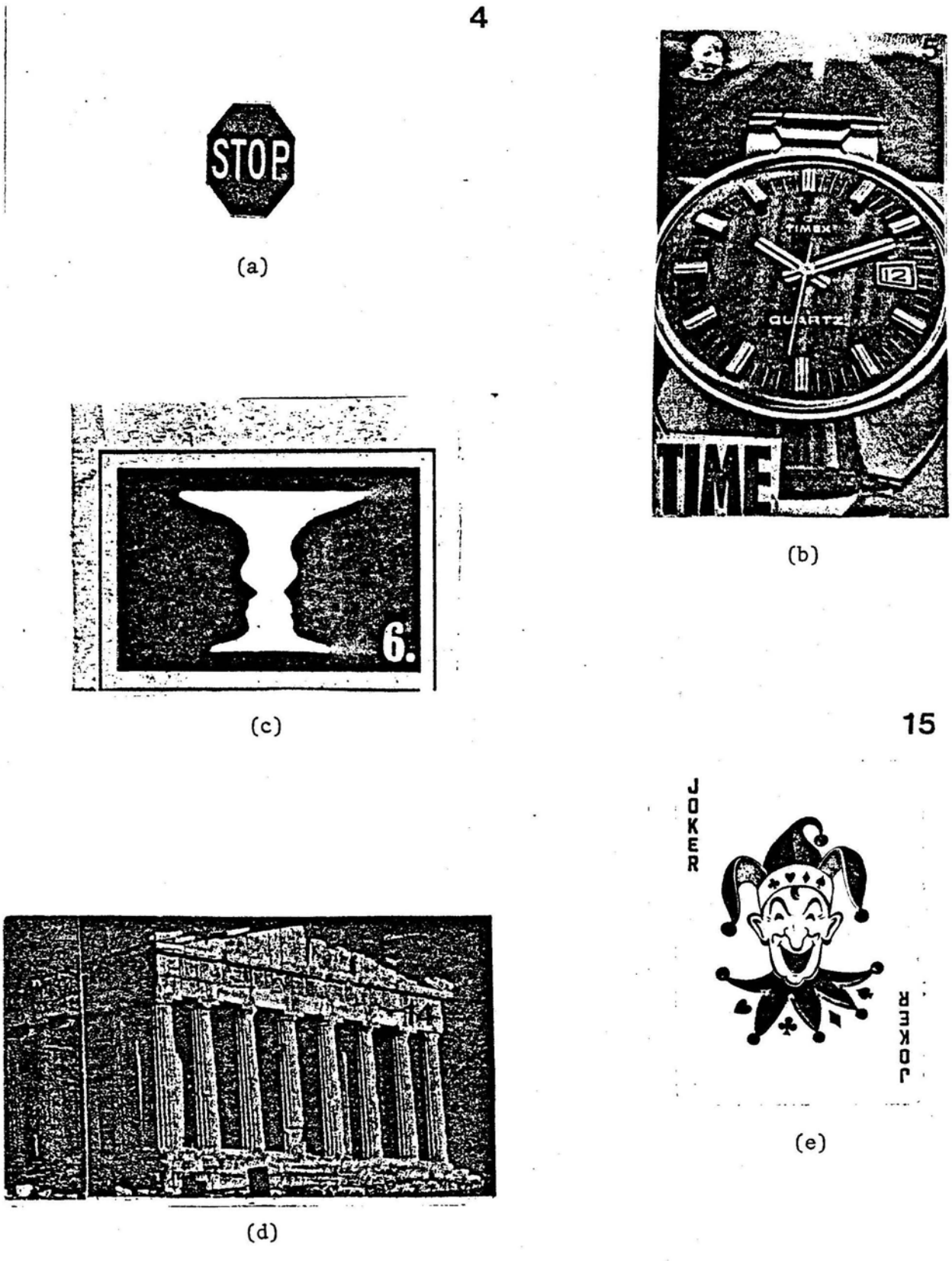


Figure 17. (a) Target 4. (b) Target 5. (c) Target 6. (d) Target 14. (e) Target 15.

PART THREE -- PSYCHOKINESIS EXPERIMENTS

PK EXPERIMENTS WITH MATTHEW MANNING

J. A. Jungerman
Department of Physics
University of California, Davis 95616

Abstract

Four different experiments were conducted with Matthew Manning, designed to detect macroscopic PK effects. None of them yielded significant data.

Influence of Radioactive Decay of ^{137}Cs

Three runs were made of one-minute duration each using the 662 KeV line of ^{137}Cs. The Ge-Li spectra were integrated to give a total of 30792 ± 176 counts when no volition was employed and 30799 ± 176 when PK was attempted. The difference is 7 ± 249 and is not significant. It can be further stated that there was no significant shift in the observed gamma ray energy emitted (i.e., within limit of observational error ± ½ keV).

Variation of Capacitor Plate Separation

An L - C circuit was connected to a frequency counter and printout at 2 x per second. The capacitor had plates which could be relatively easily bent. A Faraday screen cage surrounded the capacitor and it was visible through a plexiglass window. MM was instructed to push the plates together with PK. No change in frequency and hence plate separation greater than one part in twenty thousand was observed during the volition periods. Delayed effects were not investigated. The limit of frequency change observed (1 in 20,000) corresponds to a force of about 300 mg applied to the free end of the capacitor plates. This apparatus was constructed by Mr. Clayton Lockhart.

Magnetic Field Measurements

A Hall probe was used to measure the magnetic field. At times MM's hands were within 10 cm of the probe. No reliable effect was found above the background of approximately 10 milligauss. This experiment was conducted in cooperation with Mr. R. Hawke.

Influence on Insulated Thermal Probes

This experiment was constructed by Mr. R. Hawke and installed temporarily in a room at the physics department, UCD, for this test. Mr. Hawke took the measurements described below.

Experimental Apparatus

The target consisted of five temperature sensors: two thermistors; and one each, thermocouple, platinum resistance gauge, and a plusistor. One of the thermistors was connected to a digital readout thermometer with about five millidegree resolution and was placed in view of MM to provide feedback. The other thermistor signal was amplified and recorded. A plusistor is similar to a thermistor, except that it has a positive, rather than negative, resistance-temperature coefficient. The sensors were in good thermal contact (epoxied together) and operated on four fundamentally different principles. Each sensor was electrically isolated, individually amplified, detected and recorded.

The target sensors were surrounded by ambient pressure air and contained in a small glass bottle to reduce convection currents. The glass bottle was in ambient pressure air and contained in a one-pint thermos vacuum bottle. The lid of the thermos bottle contained a thermopile to measure heat flow in and out of the pint bottle. The thermal conductivity of the lid was much greater than the thermos.

The pint thermos was placed under an inverted half-gallon thermos vacuum bottle which was placed on an insulating foam base. Two additional thermistors were located near the glass bottle inside the pint thermos and near the pint bottle inside the half-gallon bottle.

Logic probes, which provide a visible light flash whenever a one-or-more volt pulse of one or more nanosecond's duration is applied and a steady light indication whenever a one-volt or more DC voltage is applied, were used to monitor stray electric-fields and time-variant magnetic fields in the vicinity. The electric field monitor consisted of the probe being connected to the aluminum skirt of the thermos which is normally its base. The time-variant magnetic field monitor consisted of a single-turn loop of wire around the large thermos and with the target near the plane of the loop.

The transient response time of the target sensors themselves was about one second or less. The transient response time to an external ambient temperature change of the whole system of thermos bottles was several hours.

Results

During the course of two, approximately one-hour attempts to increase and decrease the target temperature, no discernable deviations of any of the recorded signals were observed.

It was noticed, however, that the electric field monitor indicated considerable numbers of pulses during MM's attempts, even when he was not touching the metal base, and considerably more than when other persons changed places with MM and placed their hands in proximity to the base. Since the electric field was being only monitored, and not recorded, it wasn't possible to measure its magnitude or source.

OBSERVATIONS UTILIZING BIOLOGICAL MATERIALS

David W. Deamer
Department of Zoology
University of California, Davis 95616

Abstract

Attempts were primarily directed to the physical measurement of possible paranormal interactions between human subjects and biological materials. The materials included water, aqueous solutions, lipid monolayers, proteins and human erythrocytes. Parameters included force and voltage generation, pH measurements, surface tension of air-water surfaces, light scattering and evaporation rates of aqueous solutions. The measurements were made with a recording pH meter, recording spectrophotometer, and a Cahn recording electrobalance.

Each instrument naturally had other internal parameters which could have been affected. For instance, the electrobalance could also have detected alterations in temperature, humidity, electrostatic force, electromagnetic force or voltage surges. However, no unexpected effects were, in fact, manifested. Most of the measured physical and biological parameters were insensitive to conscious attempts to alter them. The effect on evaporation rates from aqueous solutions is worth further investigation.

Experimental Procedures and Results

Force generation

MM was asked to interact directly with a Cahn recording electrobalance (as shown in Figure 1), in the absence of any material on the weighing pans. The glass door of the balance was closed and the sensitivity was set to 2 mg full scale on the recorder. No anomalous forces were produced.

Voltage and pH

MM was asked to alter the graphic display of a pH meter reading the pH of an aqueous saline solution. Since the pH meter is a highly sensitive voltmeter measuring voltage across a glass membrane, we were also monitoring any potentials which developed in the system. No unusual effects were observed.

Erythrocyte properties

A suspension of human erythrocytes was placed in a cuvette and its absorbence at 500 nm was continuously recorded. MM was asked to interact with the cells in any way which would affect their physical or biochemical properties. Changes in volume or aggregation of the cells would be detected under these conditions. No anomalous effects were observed. The cells were then osmotically stressed by addition of water to the cuvette until swelling of the cells began to occur. MM was asked to attempt to either "heal" the stressed cells or stress them further. There were no observable effects.

Physical properties of protein

To determine whether protein properties could be affected, a scalp hair was obtained from MM and placed under tension in the electrobalance so that tension could be monitored. MM then attempted to alter its properties in such a way that the tension would change. No effects were observed.

Surface tension (γ) of water

R. N. Miller (1976, 1977) has claimed that healers and normal individuals can affect surface tension of water. We attempted to repeat this work using a Wilhelmy plate method in the electrobalance. MM and other laboratory personnel attempted to cause changes in (γ) of water, saline and protein solutions in the presence and absence of lipid monolayers on the surface. A glass barrier 5 cm from the surface protected it against drafts and contamination from finger oils and aerosols. No effects were measured. We suggest that an alternative explanation for Miller's results is contamination by aerosols or infrared radiation from the hands, either of which would produce a decreased surface tension. The published reports do not mention controls for this possibility. Miller also found that a glass barrier inhibited the effect.

Evaporation of water

A sensitive measurement of possible human effects on water structure is evaporation rate. This can be measured in the electrobalance as a weight loss from an exposed solution. MM and the investigator attempted to change evaporation rates of water, saline and protein solutions which were placed in the balance. In several experiments there was an apparent slowing of the evaporation rate of a protein solution (serum albumin, 1 mg/ml) (Figure 2). The effect was not statistically significant, as not enough experiments were done in the time available. This change is in the opposite direction from that expected if infrared radiation from the hands or face were causing changes in evaporation rates. (Increased evaporation rates due to infrared heating could be readily demonstrated by illuminating the aqueous solution briefly.) In one experiment, the effect was not observed. We are presently unable to offer trivial explanations for the inhibiting effect and further experiments are underway.

EEG measurements

EEG was monitored during three of MM's attempts to influence (γ) of water. In each instance, all tracings changed very rapidly to high amplitude wave patterns when the trial began, and returned to lower amplitudes and frequencies at the end of the trial (Figure 3).

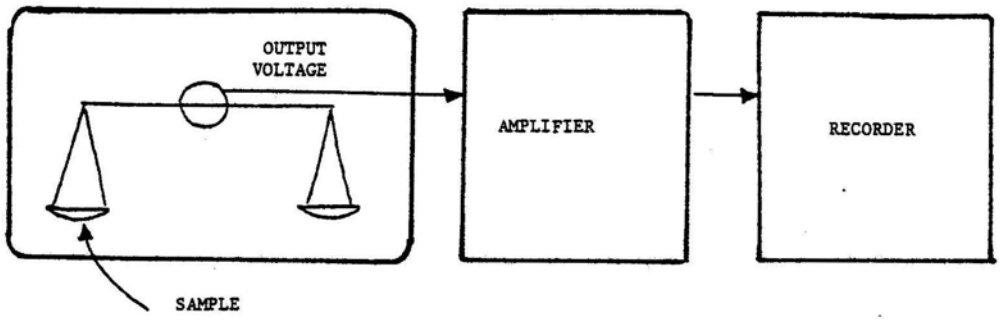


Figure 1. Cahn recording electrobalance.

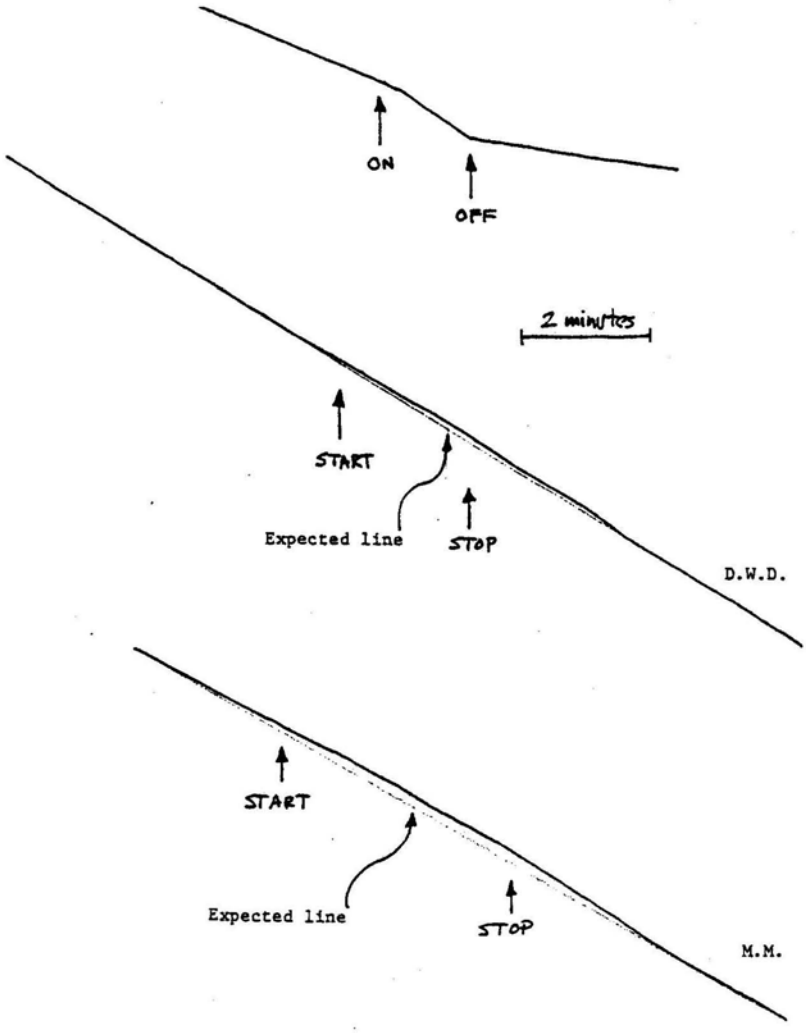


Figure 2. Illumination with laboratory lamp.

Figure 3.

Miscellaneous tests

MM was asked to raise the temperature of a metallic thermistor probe to values greater than human body temperatures (37° C). He was permitted to hold the probe. The highest temperature achieved was 35° C, about that expected for the hand.

MM was asked to affect the emulsion of ASA 3000 Polaroid film. The attempts were made in absolute darkness, inside a laboratory darkroom, by directly laying fingers on the exposed emulsion. No unusual effects were observed.

Conclusions

Most of our measured physical and biological parameters were insensitive to conscious attempts to alter them. We were unable to repeat R. N. Miller's observations on human interactions with aqueous interfaces and surface tension. The effect on evaporation rates from aqueous solutions is worth further investigation.

References

Miller, R. N. The energies of spiritual healing. Science of Mind, January 1976, p. 23, and January 1977, p. 26.

EXPERIMENTS WITH MATTHEW MANNING

F. W. Lorenz
Department of Animal Physiology
University of California, Davis 95616

Abstract

Experiments were conducted using a variety of physiological measures—the sodium pump in frog skin, optical plethysmograph and galvanic skin response. Although some interesting results were obtained, none of the results presented below were obtained under sufficiently rigorous conditions, or were replicated sufficiently to make statistical evaluation definitive. The results are presented herein as simply suggestive and possibly directive of further research—as well as to convey a sense of some of the human issues involved in psi experimentation.

The Sodium Pump in Frog Skin

Method

Active transport of various substances across membranes is an important energy-consuming process, essential for "pumping" such substances against an osmotic gradient. Active transport of Na^+ is especially important since it maintains the intracellular-extracellular sodium-potassium separation essential to the function of nerve cells.

Frog skin has an active Na^+ active-transport system. Its size and ready accessibility make it a convenient tissue with which to study this process, and it has been much used in both teaching and research. In the experiment reported here the standard teaching-laboratory setup, as described by Ussing and Thorn (1972) was used, modified only by using a Grass polygraph in place of an oscilloscope so as to have a permanent record of the data.

In brief, the frog skin forms a membrane separating two chambers, each filled with normal Ringer's solution. Active transport of Na^+ produces a potential difference across the membrane which also results in passive transport of Cl^- in the same direction. In order to measure the Na^+ transport only, a bucking voltage is applied which neutralizes this potential difference and prevents the Cl^- diffusion. Then, the current across the membrane at 0 voltage is a direct measure of the Na^+ transport.

Use of this system for studying psychokinesis was conceived of by an undergraduate student, Ron Schlatter, who assembled the equipment and conducted the experiment as a special study project (Physiology 199).

Results

Unfortunately, in adapting the system to the polygraph in place of the oscilloscope, it proved impossible to obtain enough bucking voltage to entirely neutralize the skin-induced potential, for reasons that neither Ron nor I nor an electronics technician

were able to understand.[1] Attempts to resolve this problem delayed the start of the experiment until there was only time for a single run plus one control run. At that time, however, the skin was producing a stable potential of -84 mV, and a stable bucking potential of 70 mV was obtained. Therefore, the skin was performing active transport against -14 mV, and its measurement was thus contaminated by Cl^- drift at that voltage.

The results of the single experiment were quite striking. Both Matthew Manning (MM) and the control subject Dave Deamer (DD) attempted first to increase and then to decrease the active transport current by holding the hands a few inches from the cell and sending "psychic energy" from the hands to it.

As shown in Figure 1, when MM attempted to increase the active transport there was no change in the already high value of 125 microamps for one minute, followed by an increase of 8 microamps in 20 seconds and then a gradual decrease back to the original level. (Ron told me afterward that MM started work before he could switch on the recorder so there's a possibility that there may have been an immediate effect that was lost.)

MM's attempt to decrease the active transport rate was cleaner and much more dramatic. Immediately after he started work the current started to fall and decreased from 80 to 40 microamps in 10 seconds. This low level was maintained for a little over a minute and thereafter the current increased somewhat irregularly in spite of his continued effort, but had not regained its original level at the end of the run.

In contrast, DD's attempts had no effect on the active transport current (Control 1 & 2, Figure 1).

Sympathetic Nervous System

Introduction

MM made several attempts to affect two physiological parameters controlled by the sympathetic nervous system, finger circulation as measured with optical plethysmograph and palmar sweat gland activity as measured by galvanic skin resistance (GSR). Four subjects were used: Laura, a laboratory assistant; Carol and Cindy, students; and myself.

In these experiments the subject was in an isolation room. The leads passed through a port in the wall to a Beckman Dynograph penwriter on which the record was displayed. MM stood outside the subject room where he could watch the penwriter. On verbal order (inaudible to the subject) he attempted to arouse or sedate the subject, usually for 30-second periods, according to a predetermined random sequence. Rest periods of either a half a minute or one minute intervened between each experimental period.

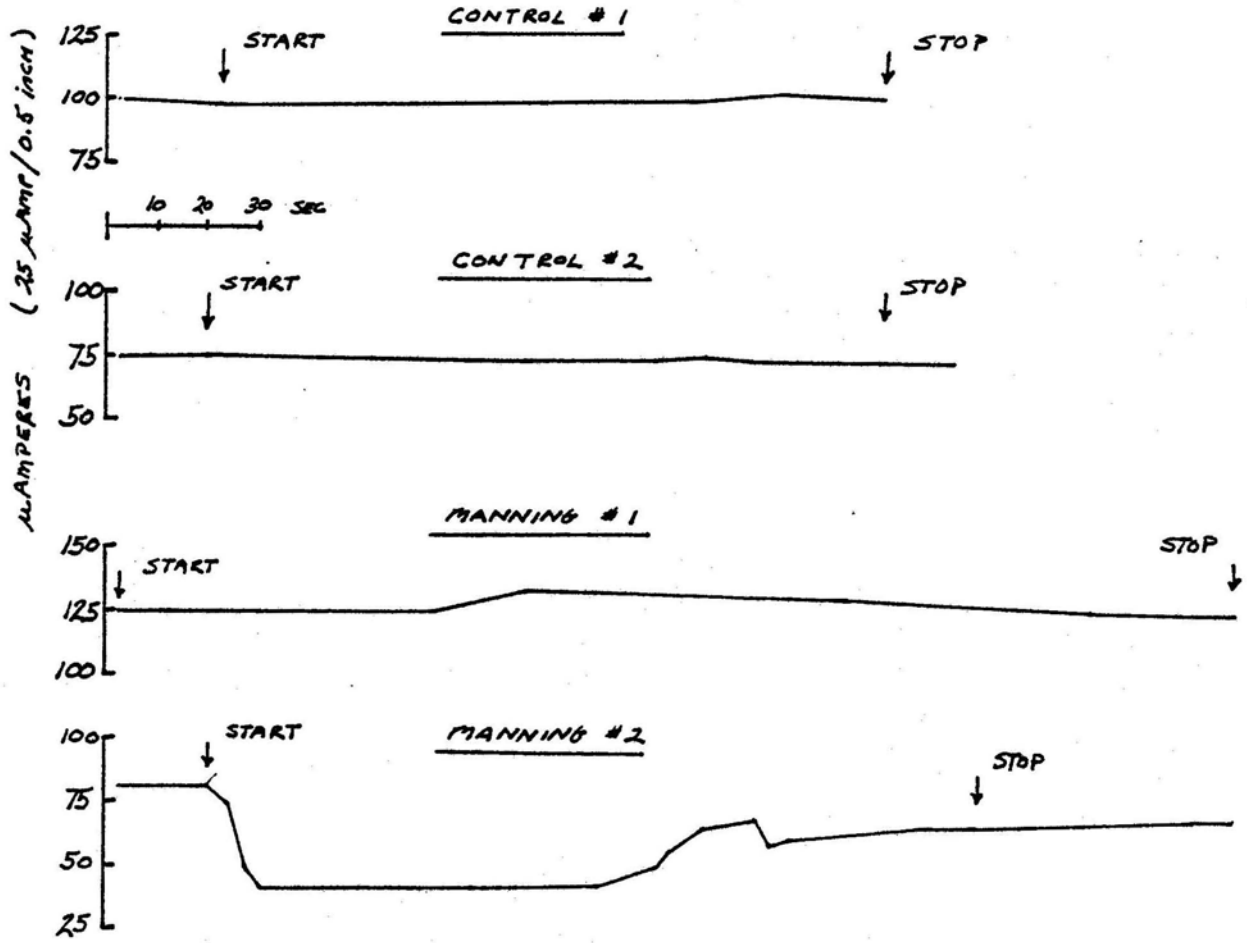


Figure 1. Active transport of Na+ through frog skin as affected by DD and MM. The upper curve by each operator showed the attempt to increase, and the lower curve to decrease, the rate of active transport.

Table 1

Finger Circulation as Affected by MM: Subject Laura
Figures are lenths of pen excursion at 0.1 mv/cm

Order	Immediate	Ave.	30 Seconds	Ave.	End	Ave.
Rest	13, 7, 5, 6, 4	7.0	9, 14, 11, 8, 10	10.4	7, 11, 11, 8, 12	9.8
Arouse	14, 13, 14, 13, 12	13.2	11, 7, 10, 7, 11	9.2	13, 16, 16, 14, 12	14.2
Rest	16, 15, 19, 17, 14	16.2	16, 12, 12, 15, 14	13.8	15, 20, 18, 15, 19	17.4
Sedate	20, 15, 17, 19, 18	17.8	20, 15, 18, 19, 18	18.0	18, 23, 18, 14, 10	16.6
Rest	25, 20, 24, 24, 16	21.8	15, 11, 12, 16, 22	15.2	17, 20, 12, 10, 18	15.4
Arouse	21, 20, 16, 23, 26	21.2	19, 12, 15, 15, 13	14.8	18, 18, 18, 13, 15	16.4
Rest	19, 18, 18, 20, 20	19.0	33, 32, 25, 33, 36	31.8	30, 32, 29, 29, 25	29.0
Arouse	34, 32, 30, 25, 30	30.2	24, 35, 33, 25, 23	28.0	23, 27, 22, 29, 23	24.8
Ave Rest		16.0		17.8		17.9
Ave Arouse		21.5		17.3		18.5
Ave Sedate		17.8		18.0		16.6

Our attempts to specify random sequences had disconcerting results. At first we entered a table of random numbers, using odd numbers for arousal and even numbers for sedation, but each time we obtained abnormally long sequences of odd or even. Then I turned to tossing a coin and obtained nine heads in a row. I refused to use that and made two further attempts, both of which led to long sequences of the same face before being abandoned. I wish I had completed these and kept an accurate record. The probability must have been astronomical. At the time, however, I simply felt frustrated in trying to get an experiment started, and finally resorted to preparing cards with equal numbers of "arouse" and "sedate" orders, shuffling these and drawing them at random.

The experimental results were also frequently frustrating. As I watched the penwriter during the experiments I felt that in most cases I could see the pen move in a consistent and significant manner in response to an order. However, in most cases there was so much "noise" in the records that later attempts to interpret them were essentially fruitless. Only a few records were clear enough to analyze, and only these are described below in detail. Original plans also included studies on heart rate, but at the last minute my cardiotachometer coupler failed, and this study had to be abandoned. Such experiences reminded us of the poltergeist activity that had been characteristic of MM's history and made us wonder whether such phenomena were still occurring. The experience with bucking voltage described above may have had the same origin.

Optical plethysmograph.

This instrument measures the changes in optical density of a finger in response to the rhythmic filling and emptying of the small blood vessels with each heartbeat. The amplitude of each excursion of the pen is thus a measure of the amount of filling and emptying, and therefore of the total circulation through the finger. It is affected, of course, by the vigor of the heart beat, but more immediately by the vasoconstrictive action of the sympathetic nervous system. An alerting stimulus thus reduces the amplitude of the excursions.

Results. Two runs were made with this parameter. The second, with Carol, could not be analyzed because the data were contaminated with large, slower shifts in the amount of filling and emptying associated with her respiratory pattern. The earlier run, made with Laura, was a short one and intended to be preliminary. MM attempted to arouse her three times and to sedate her once, each for periods of approximately one minute, with rest periods in between also of about one minute duration. The results were analyzed for the purpose of this report by measuring and averaging the amplitudes of the first five excursions after the order was given, the five starting 30 seconds later, and the last five before the next order.

These data are recorded in Table I. In each of the three arousal periods the amplitude of the pen excursion was decreased 30 seconds after the order to arouse was given to MM, as would be expected if Laura actually received an alerting stimulus which activated her sympathetic nervous system. In two of these, the amplitude increased again toward the end of the period, but only once did it exceed the initial value. These results, though highly suggestive, must be interpreted very cautiously, for the large and uncontrolled changes that occurred during the rest periods throw the possible significance of any changes into question. Also, there was a gradual increase in amplitude throughout the experiment, doubtless due to Laura's gradually increasing relaxation, which should have been minimized by allowing her to reach full relaxation before starting the run.

Galvanic Skin Resistance (GSR).

A rapid and immediate fall in electrical resistance of the palmar and plantar surfaces occurs in response to a challenge to the sympathetic nervous system. It is presumably due largely to charging of sweat glands and is highly sensitive. With an instrument of sufficient sensitivity, measurable responses can be obtained to such minimal alerting stimuli as hearing a word such as "mother" or "angry" or one's own name in a string of emotionally neutral words. A response may also be triggered by a passing thought--often one which the user is not even aware is disturbing him--for which reason I sometimes half-facetiously suggest private use of the instrument as "do-it-yourself psychoanalysis."

Results. One GSR run was made with Laura and one with myself which were not usable. There were so many supermaximal responses in the former that analysis was impossible, and in the latter there were no responses. It is regrettable that more effort was not made to adjust the instrument sensitivity individually in each case, but at the time it seemed better just to abandon those runs. The run with Cindy was made in conjunction with an EEG trial (as described in the author's paper on EEG research with MM). Difficulty with uncomfortable head electrodes undoubtedly distorted the results; in any event, no consistent response emerged.

Two runs were made with Carol, and both of these yielded to analysis (see Table 2). In most periods, whether MM was attempting to arouse or sedate or whether he was resting, there was an immediate response, defined as starting no more than 10 seconds but nearly always less than 5 seconds after the order was given to MM. These responses typically took 2 or 3 but occasionally as many as 7 seconds to rise to a peak then declined at once a little more slowly. Sometimes but not always there were one or more secondary responses, usually late in the period. A record was made in the "maximum" columns of Table 2 only of peaks that were larger than the immediate

Table 2

GSR as Affected by MM: Subject Carol
Decreases in finger-tip resistance in ohms per cm^2 [1]

Order [2]	Arouse		Rest		Sedate	
Response [3]	Immed.	Max	Immed.	Max	Immed.	Max
Experiment 1	0	286	800		286	
			0	86		
	114		571			
	457		457	514	0	(857) [4]
			0	86		
	0	143	171		457	
			514			
	429	629	600	(857)		
	114	229	343	457		
	143	343				
Experiment 2					586	
			729			
	286	(857)	329		0	29
			300		257	671
			100	786		
	14	186	0	(857)	(857)	
			143	357	0	29
			0			
	57		100			
	100	271	214		286	714
Ave. Expt. 1	180	314	384	451	247	533
Ave. Expt. 2	114	343	213	409	331	481
Weighted Ave. 1 & 2	156	324	299	430	303	499

1/ Calculated from excursions of the Dynograph pen at sensitivity of 1.0 mv per cm. The combined area of the two Ag-AgCl nonpolarizing electrodes was 10 mm^2.

2/ Orders were given MM verbally to arouse or to sedate the subject or to rest, but were not audible to the subject. Arouse and Sedate orders were given in random sequence; a Rest period intervened between each two experimental periods. Successive periods may be read from left to right across the page.

3/ The immediate response started no more than 10 but usually less than 5 seconds after the order was given.

4/ Figures in parentheses were calculated from maximal excursion of the pen. Thus, actual values for these resistance drops are probably somewhat greater.

response in that period, though the average values for the maximum response include data for all periods.

The results of these two experiments failed to yield significant differences between the three experimental periods as estimated by analyses of variance. Thus the differences, as recorded in Table 2, may have been due simply to chance variation. Nevertheless, a tentative attempt may be made to interpret them as the values were somewhat unexpected. In both experiments, both the immediate and the maximum average responses during both the sedation and rest periods were larger than corresponding values during the arouse period. Also, except for the immediate response in experiment 1, all average values for the sedation period, including the averages for both experiments, were larger than in the rest period. (Unweighted averages for the two experiments, not recorded, had relative values similar to the weighted averages.)

Discussion. A possible explanation of these results is as follows. Carol had taken an immediate, strong and undisguised liking to MM. Thus, it seems likely that his removal of attention from her at the beginning of each rest period, even though subliminal, may have been more stressful than his attention in attempting to arouse her. Little emphasis should be put on this explanation, however, considering the lack of statistical significance of the data. It will be important to refine the experimental design in future work, but the very nature of the GSR will make this difficult at best.

Notes

1. Perhaps this incident was due to psychokinesis, though I have no more information about the occurrence than is stated in the paper and it has not been possible to do any further work with that equipment. It does seem that there were an unusual number of problems during these experiments as have been reported in this paper. In addition, there were an unusual number of problems with the pens on the EEG recorder.

Ussing, H. H. and Thorn, N. A. Transport mechanisms in Epithelia. New York: Academic Press, 1972.

ELECTRIC FIELD AND TEMPERATURE MEASUREMENTS

James L. Hickman and Henry S. Dakin
Washington Research Center
3101 Washington Street
San Francisco, CA 94115

Electric field variations of 1 mV/cm or more in amplitude and 0.1 to 10 Hz in frequency may be observed at distances of up to 2 meters or more from a human body. These variations, measured inside a shielded Faraday cage, are caused by small body movements which may be voluntary, such as muscle movements, or involuntary, as with blood circulation or respiration. In previous experiments, we (Macdonald, Hickman, and Dakin, 1975) observed variations in the presence of alleged psychic healers, slightly greater than those attributable to normal body movements. These unexplained variations occurred in exceptional cases, and were neither consistent nor predictable. In an unreported case we noted hand temperature variations coinciding with anomalous heart-beat-like electric field fluctuations near a subject's hands.

In tests with MM, we used the electrometer amplifier of a 10^{10}-ohm input High-Impedance Voltmeter (HIVM, Dakin, 1978), with a 10 cm #16 AWG wire connected to the input. The 16.7-Hz low-pass output filter of the HIVM was connected to one of two channels of a Tektronix 7603 oscilloscope, and to a voltage-controlled oscillator (VCO) to give audible feedback to the subject and experimenters. An Autogenic Systems "Autogen 2000b" biofeedback thermometer (BT) with a sensitive thermistor probe was used for the temperature measurements. The BT output was connected to the second channel of the oscilloscope and chart recorders. The BT's internal VCO provided audible feedback of temperature changes. (See Figures 1 and 2.) MM sat near the HIVM input sensor and had a thermistor attached to one hand. Over a 45-minute period, MM alternately relaxed and attempted to influence the devices. No effects were observed that could not be reasonably attributed to normal body or hand movements or to normal hand temperature changes. MM did show a better than average ability to learn to control his own hand temperature by the end of the session. This ability is not uncommon, and should not be regarded as paranormal. However, it may be related to MM's abilities as demonstrated in some of the other experiments described in this volume.

References

Dakin, H. S. High-impedance voltmeter. San Francisco: H. S. Dakin Company, 1978.

Macdonald, R. G., Hickman, J. L., and Dakin, H. S. Preliminary physical measurements of psychophysical effects associated with three alleged psychic healers. San Francisco: Washington Research Center, 1976.

Payne, B. Notes on life energies. Second International Congress on Psychotronic Research. Monaco: International Association for Psychotronic Research, 1975.

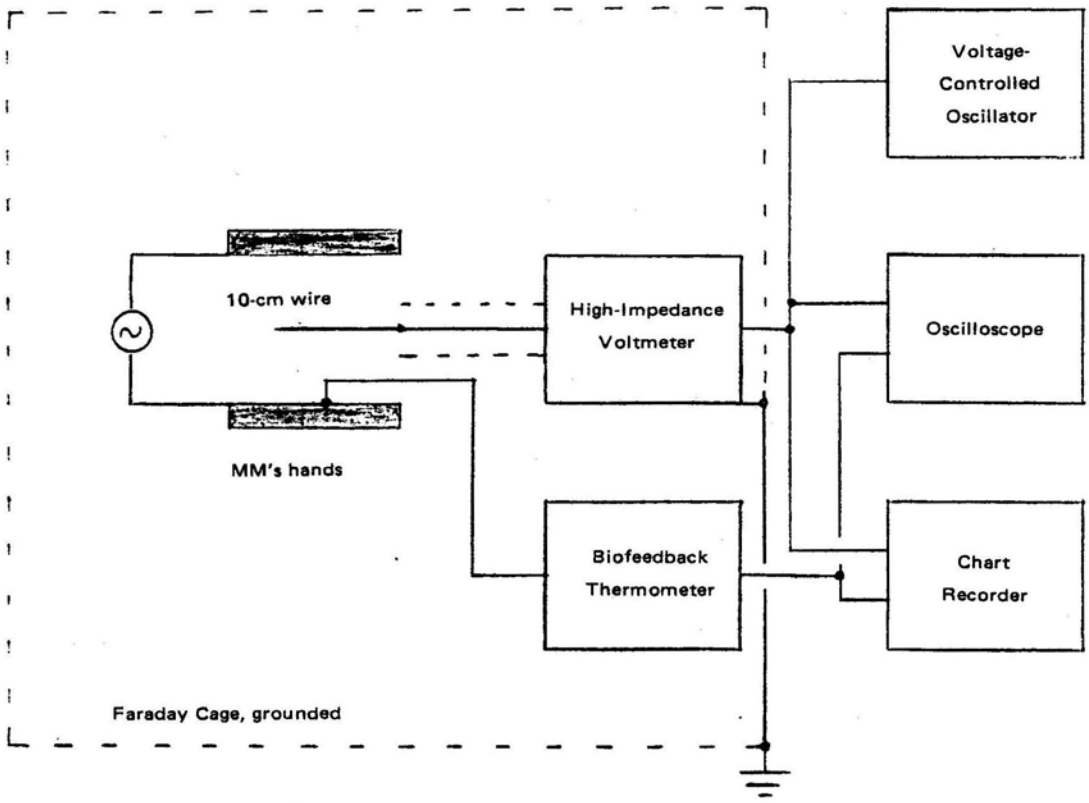


Figure 1. Block diagram of equipment for measuring electric field and temperature variations.

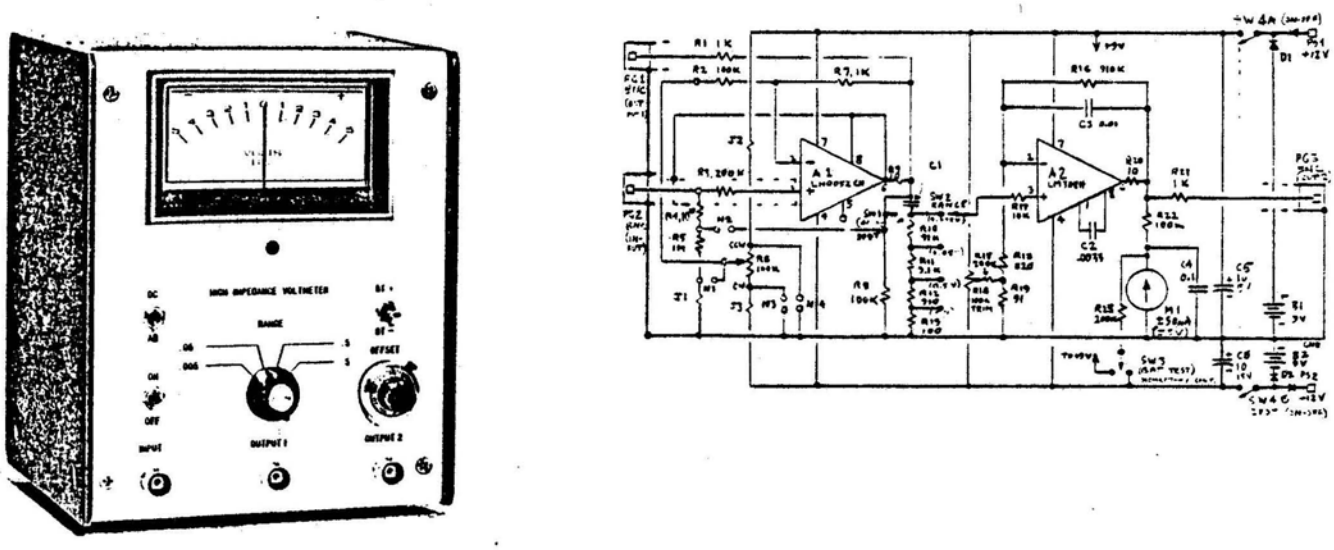


Figure 2. High-Impedance Voltmeter (HIVM) front panel and schematic diagram. From H. S. Dakin, High-Impedance Voltmeter (1978).

ELECTROENCEPHALOGRAM EXPERIMENTS WITH MATTHEW MANNING

F. W. Lorenz
Department of Animal Physiology
University of California, Davis 95616

Abstract

EEG measurements were made with MM and other participating subjects during sessions in which MM was instructed to use psi to "arouse" or "sedate" the subjects in random sequences. Some interesting results were obtained in one session in which the author served as a subject. None of the results reported were replicated sufficiently to make statistical evaluation meaningful. The results are presented as simply suggestive and possibly directive of further research--as well as to convey a sense of some of the human issues involved in psi experimentation.

Method

Records of the complex fluctuation of the electrical activity of the brain which may be picked up through electrodes variously placed on the scalp are exceedingly crude indications of brain activity, but their interpretation has, nevertheless, important clinical and experimental applications. In the experiments reported here, the EEG was used directly to assess the level of brain arousal (a well-recognized use of EEG) and also to search for any particular configurations of these fluctuations that might be associated with psychic activity.

To the above ends, in all experiments EEG was recorded from six segments of MM's head: left and right occipital (respectively O_1 and O_2 of the International 10-20 Electrode Placement System), left and right parietal (P_3 and P_4) and left and right temporal (T_3 and T_4) all referred to the vertex (C_z)--and was simultaneously recorded from the same six channels on the subject's head. All channels were recorded on computer tape, and at the same time penwriter records were made from O_1, O_2 and P_3 channels, both of MM and the subject.

In all experiments the subject was seated in the subject room with eyes closed, while MM stood outside with eyes either closed or open; if open, he could watch the penwriter. The instrument was monitored by Professor Loring Chapman who gave instructions to MM to arouse or sedate the subject, or to rest, based on his interpretation of the ongoing penwriter record. I was the subject for the first experiment, and since, as it turned out, this was the only successful run, it will be discussed in some detail below after disposing of the unsuccessful experiments.

I had asked Barbara to come up from San Francisco to participate in these experiments because of her own psychic ability and because she had previously participated successfully in unpublished experiments in my laboratory involving simultaneous EEG records of two subjects making psychic contact. I had hoped to explore such contact between MM and her, but unfortunately a personality conflict developed

immediately and prevented, or at least contributed to a failure to obtain, any meaningful results. The first run was simply the attempt to arouse and sedate her as described above, and followed immediately after the run with me as a subject. MM commented afterward that she seemed to be resisting him, and Dr. Chapman could see no evidence on the written record, either at that time or on later examination, that she was responding to MM's attempts to alert or sedate her.

The next morning I asked them to try to get into psychic contact, but MM made all kinds of objections; first he said that he didn't know what I meant, and then objected to all substitute suggestions. Finally an attempt was made to have them each focus on a neutral object, but the EEG records did not show any apparent correspondences or other expected characteristics and the experiment was terminated prematurely. During this morning MM was also complaining about the discomfort of the electrodes and holder-cap. (These have been in use in my laboratory for some time without such complaints but MM found increasing discomfort with them.)

As a result of these difficulties and the whole atmosphere of the morning, I had intended to do no more EEG work with MM. However, a special rapport had developed between MM and Cindy. At MM's request, an EEG run with Cindy as subject was mounted on his last day in my laboratory, shortly before he left for San Francisco. Again they refused to attempt psychic contact and the arouse-sedate protocol was repeated. Although they both started with apparent enthusiasm, he very soon began to complain about the discomfort of the electrodes. After the experiment, Cindy also stated that just before the run began the electrodes suddenly became very painful. Whether or not her discomfort was telepathically received, and whether or not her discomfort was sufficient distraction to spoil the experiment, his attempts produced no effects on Cindy's EEG and there were no apparent correlations between them. In spite of the discomfort they agreed to reverse roles for a shorter run: MM went into the subject room and Cindy stood outside attempting to influence him. Again, however, their EEG's showed no effects.

As stated above, the only clear results were obtained in the initial experiment when MM attempted to affect me. Following a baseline period, and responding to instructions from Dr. Chapman, MM sent suggestions to me to be wide awake, to go to sleep, to awake, to awake again, and to go to sleep, with rest periods between each. This time Dr. Chapman was able to see the effects of the suggestions in the EEG as it was being produced. I was also very aware of being alerted three times, with drowsy or inattentive periods between, although I don't know whether they were in exact temporal correspondence. My first remembered alerting was most dramatic and seemed to come out of deep drowsiness or even actual sleep.

Results

The correspondences between MM's and my own were most dramatic. These are most clearly illustrated by moments such as those shown in Figures 1 and 2(a), where trains of high amplitude or slow waves are simultaneously evident from both heads. (In these illustrations, photographed directly from the penwriter record, the top three channels are respectively O_1, O_2 and P_3 from MM and the bottom three are the same channels in the same order from me.) Figure 1(b) is especially interesting as it shows a kappa rhythm manifested simultaneously in both heads. The kappa rhythm is usually a sign of alerting during a drowsy state.

The correspondence was not limited to such short-term and striking displays, however. It seemed that usually when MM was producing alpha rhythm so was I; Figure 3 illustrates this tendency very well. Here are three consecutive pages of an awakened period; i.e., they cover 30 seconds of record. During that half minute MM's record and mine shifted simultaneously (though not with the precision of some of the patterns already described) from low amplitude, fast beta to irregular, slow waves and then to quite regular alpha. Such correspondences could be seen throughout the record.

The validity of these correspondences is amply confirmed by computer analysis. Artifact-free 10-second periods were chosen for analysis and computer-generated power spectra were obtained as follows: for the initial baseline relaxation period (30 seconds), for the three awake periods (150 seconds), for the two "asleep" periods (60 seconds) and for the four interim relaxation periods (90 seconds). These power spectra are reproduced in Figures 4 through 7.

During the initial baseline period (Figure 4), MM was producing a mixture of frequencies from 1 to about 13 Hertz (Hz), with maximum close to 1 and, in occipital and parietal regions, at 11, while I settled immediately into an almost pure low-frequency alpha rhythm at 8 Hz in all channels. However, as soon as he tried to influence me, the respective power spectra became more alike, and this tendency was maintained not only while I was awake and asleep, but also during the interim rest periods. While being aroused (Figure 5), my low frequency rhythm was strikingly increased and the 8 Hz alpha was greatly decreased but not completely abolished. Meanwhile MM's low frequency rhythms were maintained, and his peaks in the alpha region were decreased even more than mine.

When attempting to induce sleep (Figure 6), both the shift in pattern and the correspondence in the two heads were most striking. The low frequency rhythm was almost completely abolished, and an almost pure alpha rhythm was resumed in all monitored parts of my head; however, the frequency was increased from the previous 8 Hz to 10 Hz, an unusual shift rarely observed in encephalographers. During this period, MM was also producing almost pure 10m Hz rhythms from occipital and parietal

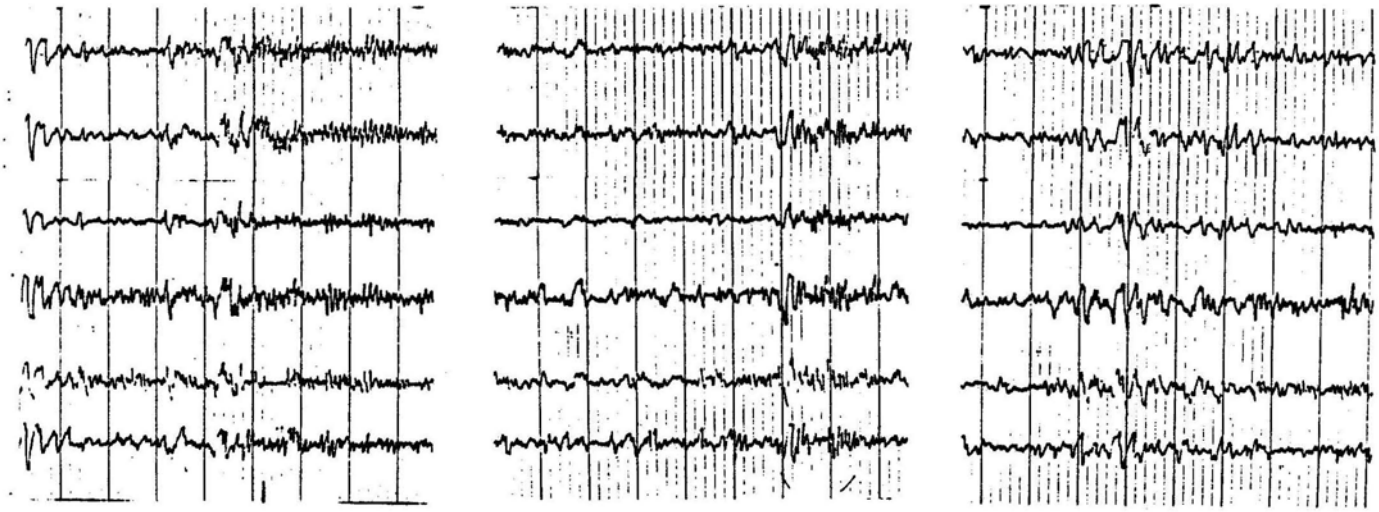


Figure 1. EEG penwriter records: three samples during awake periods.

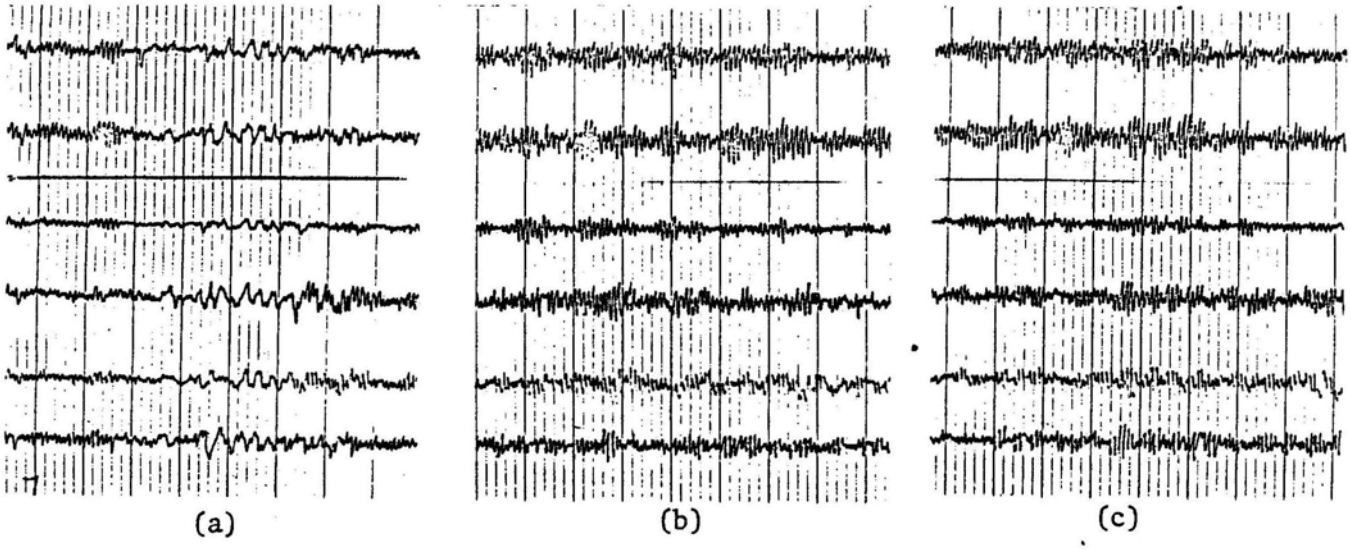


Figure 2. EEG penwriter records: (a) Sample from an interim rest period. (b) and (c) Samples from sleep periods.

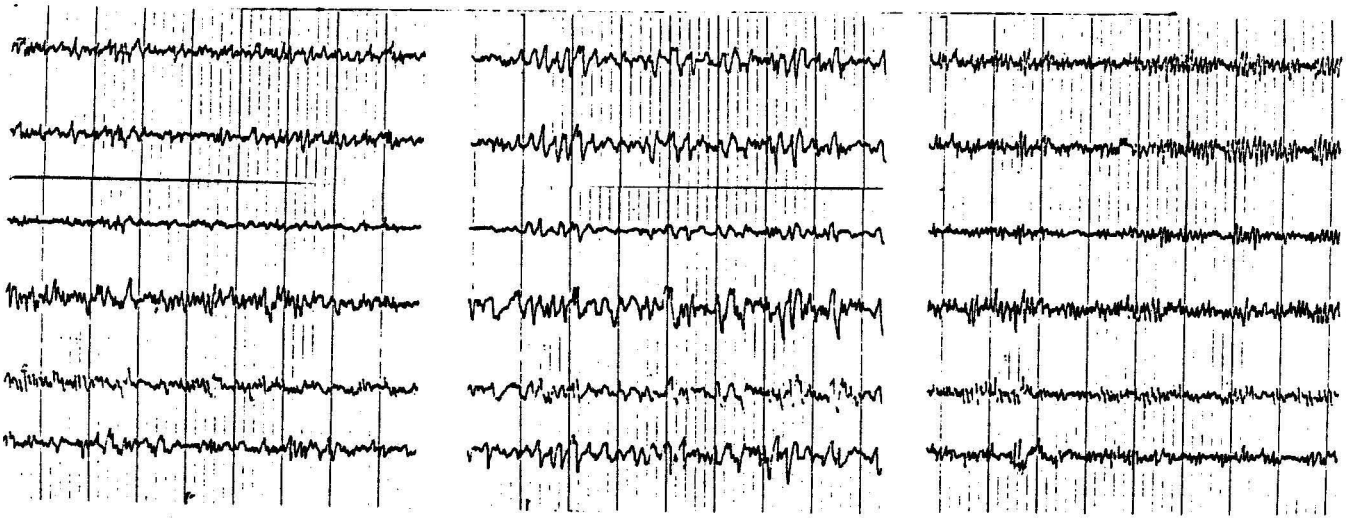


Figure 3. EEG penwriter records: Three consecutive pages from a single awake period.

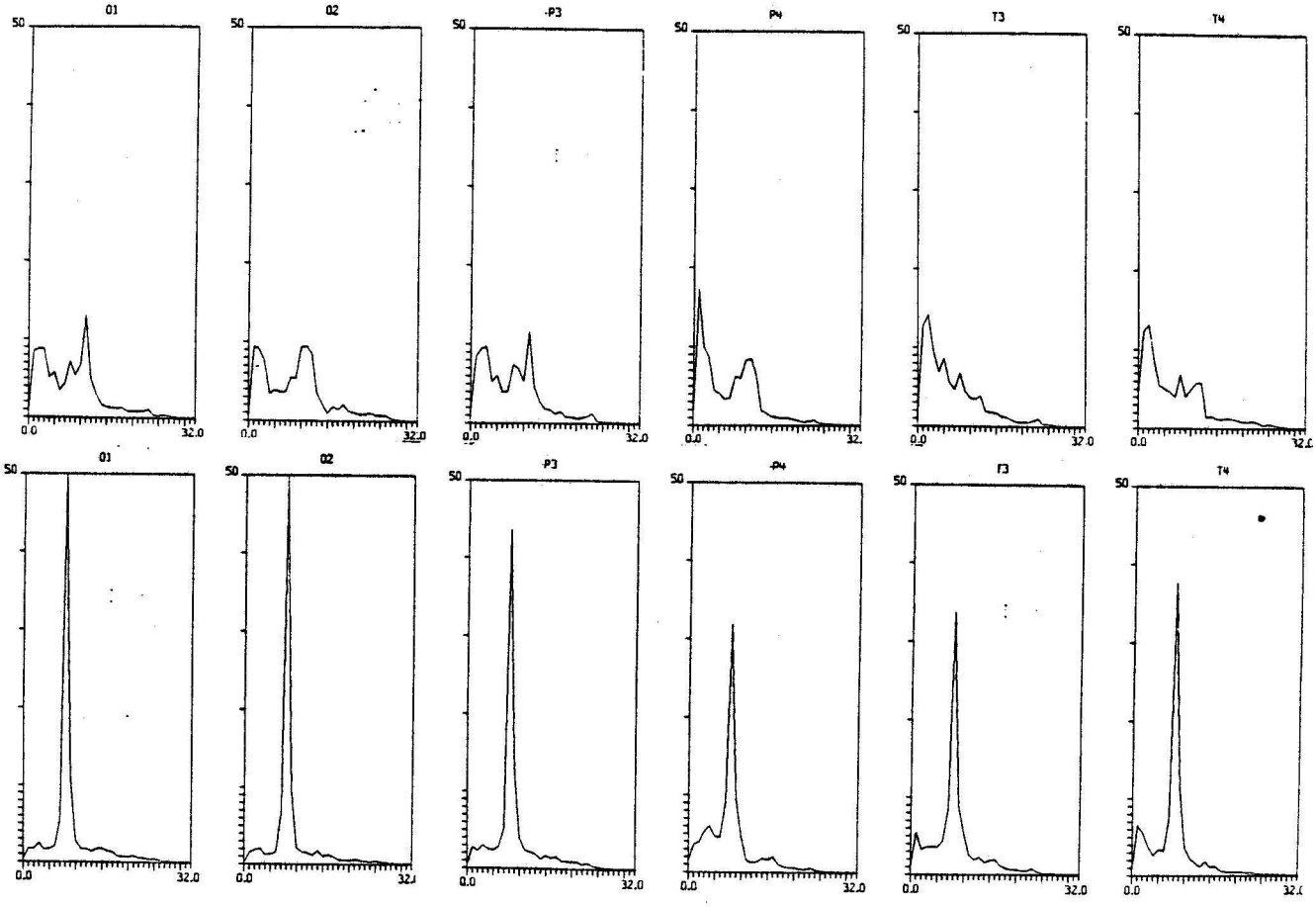


Figure 4. EEG power spectra sampled during the initial baseline period.

In figures 4-7 the top spectra are from MM and those below from the subject (FWL); electrode placements, shown above each graph, were all referred to C_z. In all graphs the abscissa is frequency in Hertz and the ordinate is relative power such that the area under the curve is 1.

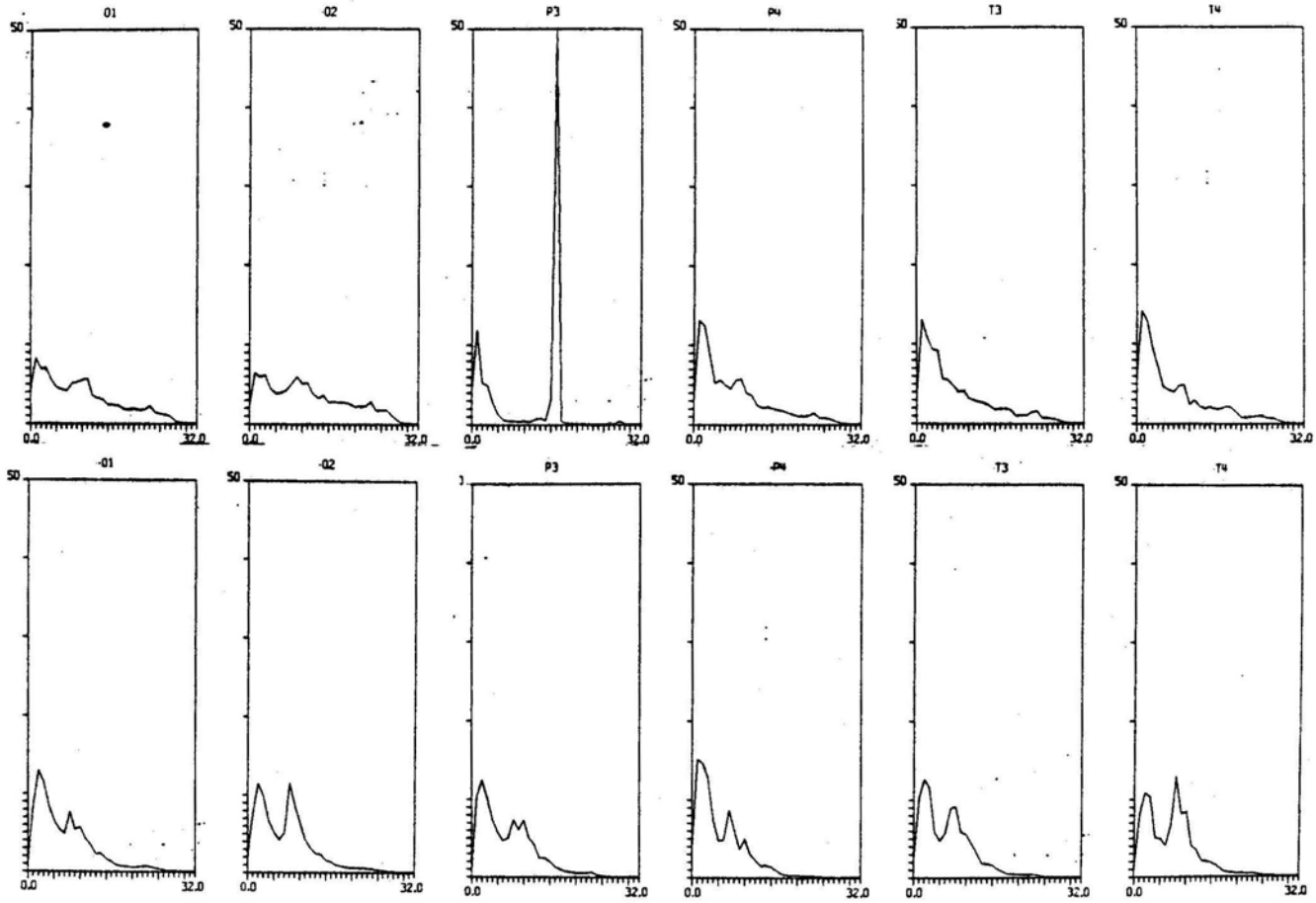


Figure 5. EEG power spectra: Sampled during awake periods.

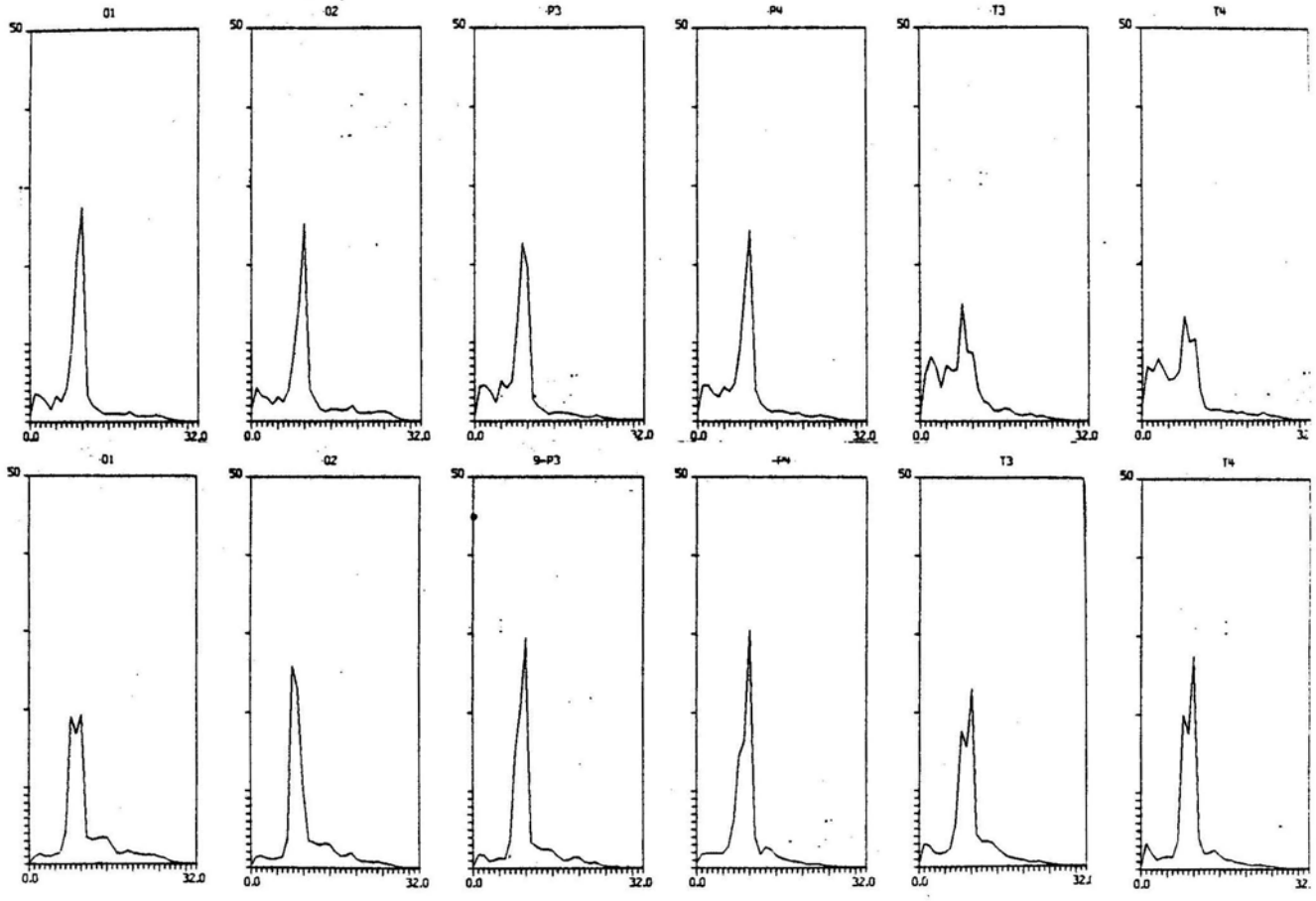


Figure 6. EEG power spectra: Sampled during sleep periods.

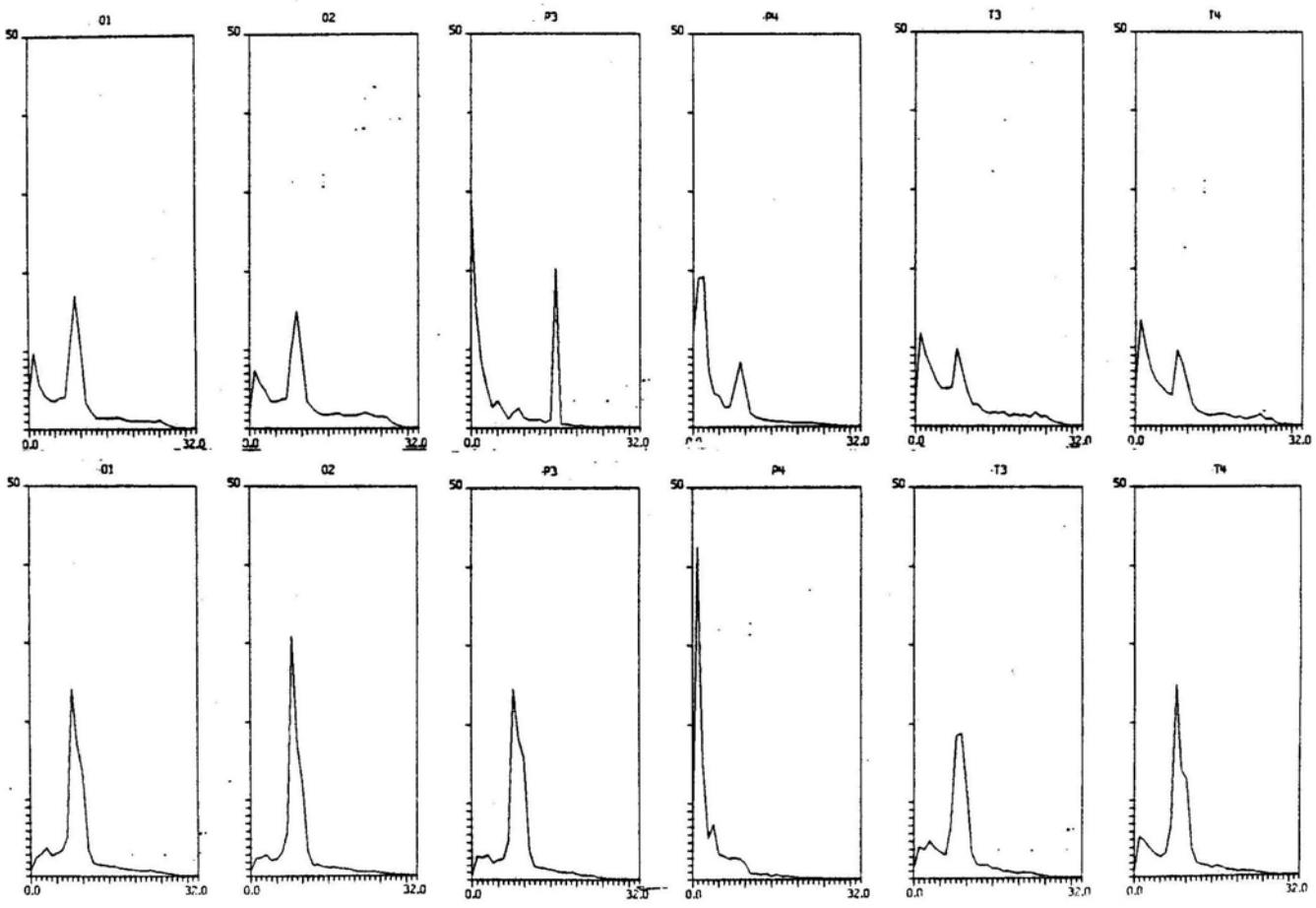


Figure 7. EEG power spectra: Sampled during interim rest periods.

leads, and definite peaks at 8 Hz from the temporal leads. Interestingly, I also had secondary peaks at 8 Hz from the temporal leads during the sleep periods.

During the several interim rest periods (Figure 7), my EEG again resembled my baseline rhythm in all areas except the right parietal, in which a striking slow rhythm was evident. During these periods, MM's power spectra resembled mine much more than during the baseline period. The only exception was from the left parietal region where, like during the awaking state, he showed an anomolous sharp peak at 16 Hz.

Obviously, the similarity of MM's EEG and mine was greatly increased as soon as he started to try to influence me at the end of the baseline period, and was maintained throughout the experiment. Any further interpretation of these results may, however, be difficult. The presence of so much very low frequency activity in MM's EEG may pose a problem, as does its presence in mine during the altered state only. Its abrupt disappearance from both our heads both times I went to sleep is equally puzzling, although its actual absence from my EEG while asleep is not, because I wasn't allowed to sleep long enough to reach stage 4. I also didn't sleep long enough to start producing sleep spindles. However, the observed increase in alpha rhythms frequency (from 8 to 10 Hz) when I went to sleep seems to be a reverse of the usual pattern.

Computer generated cross-channel coherences were also obtained in this study and examined for all possible channel comparisons between the two heads for each state as described above. This was done because in some previous unpublished results from this laboratory a high incidence of such coherence between two people was observed as soon as they made a self-described psychic contact. The present results were disappointing in that no coherence between heads was observed, a result that is perhaps not surprising considering the different roles of the two subjects. In other words, a possible interpretation is that although MM's successful attempts to influence me resulted in increased similarity of EEGs, whether as a part of the influencing mechanism or through his entrainment with my brain's electrical activity (perhaps as a sort of feedback), our differing roles prevented the exact correspondence or coherence previously observed between two people who simply had made "psychic" contact without attempting any "influence ".

Nevertheless one further attempt was made to find coherence on the chance that some actual coherence had been obscured by averaging over several periods. During each 10-second period all coherence values were counted that exceed 0.611 (at one time considered to be the minimum for statistical significance[1]); only trivial numbers of such coherence values emerged, in a seemingly chance distribution, except for a single very high and sharp peak at 23 Hz, which was evident during the initial and both waking and sleeping periods. The significance of this particular frequency

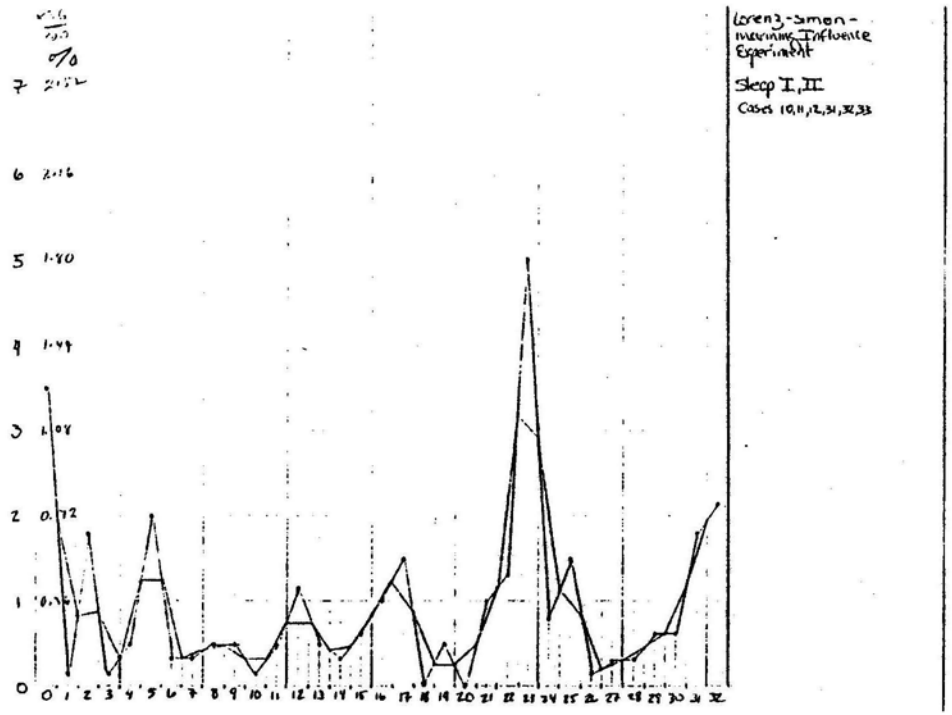


Figure 8.

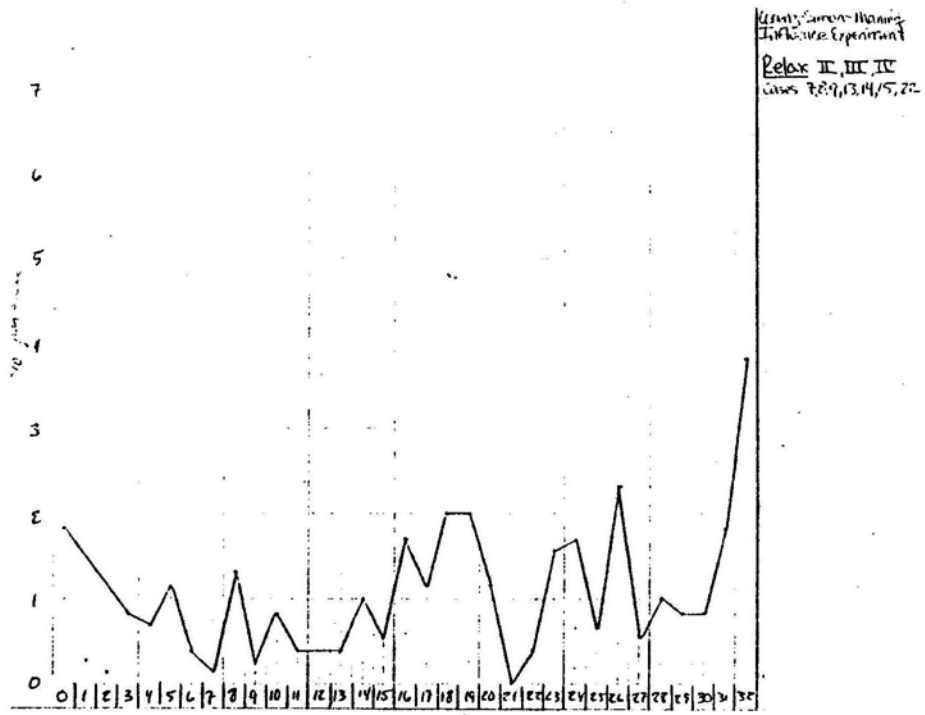


Figure 9.

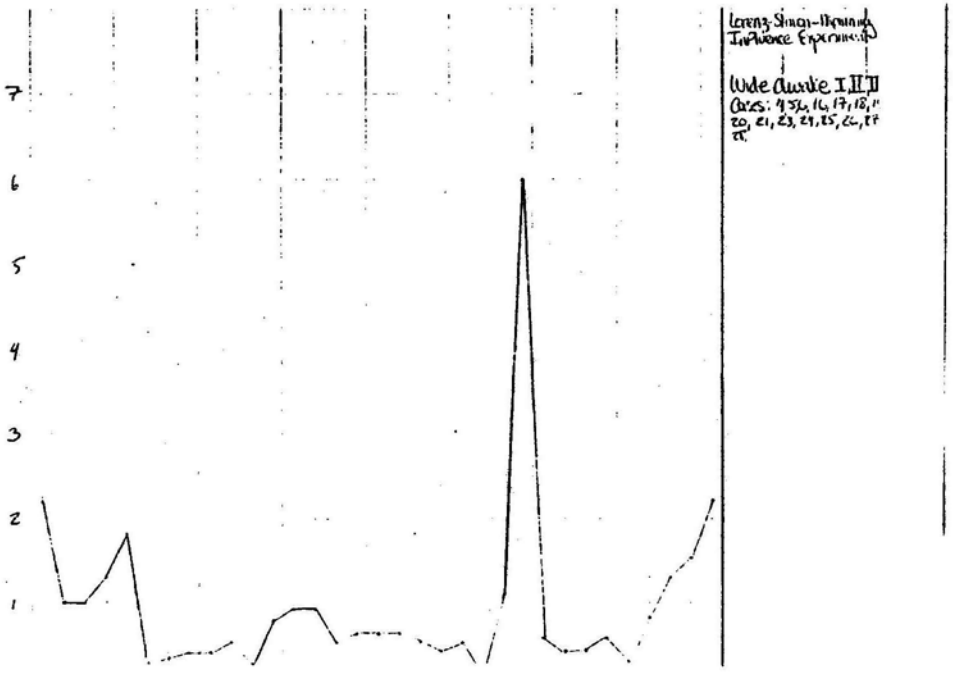


Figure 10.

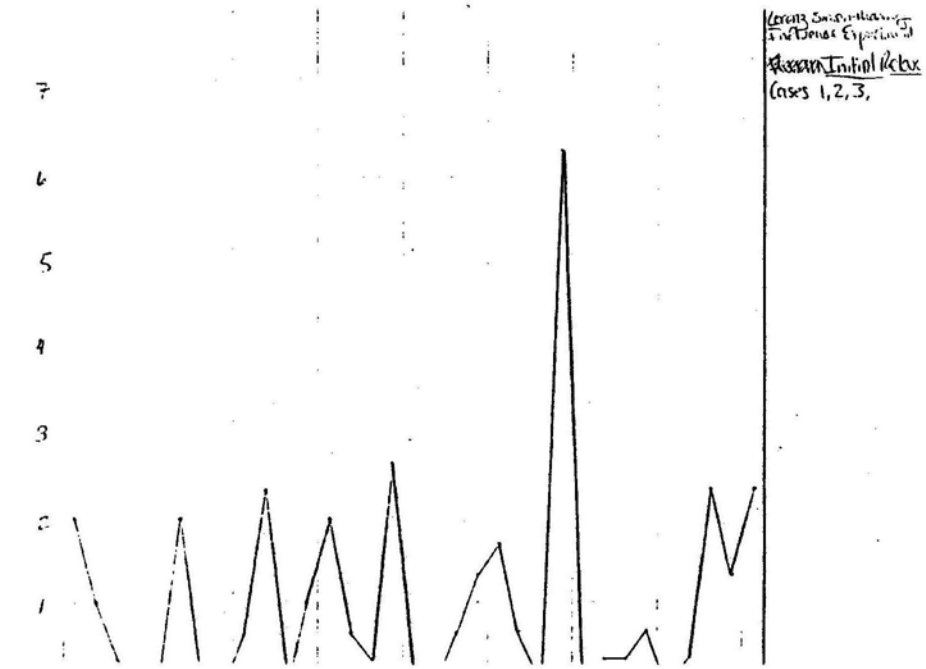


Figure 11.

is completely unknown. It is a frequency that was present in negligible amounts in the EEGs; however, in over half the power spectra a tiny peak at just that frequency is evident. It would seem most likely that it could best be accounted for by an artifactual electronic rhythm that crept into the circuitry at that frequency, except that, if so, why was it not also evident during the several interim and rest periods (see Figure 9)? At this time it can only be put on record for whatever information value it may have in interpreting future experiments.

Notes

1. Assessment of levels of significance for comparisons of EEG power spectra and for cross-spectral analyses (coherence) remains a formidable statistical problem, principally as a consequence of the obviously nonstationary nature of the EEG signal (Bendat, J. S. and Piersal, A. G. Measurement and Analysis of Random Data. New York: Wiley, 1966). Accordingly, levels of significance of these data are not calculated. The value, 0.612, formerly accepted as a minimum significance value for coherence is thus adopted here entirely as a matter of convenience and must be considered arbitrary.

2. Thanks are due to Professor Loring Chapman for supporting the computer analysis of the data, and for advice and help in interpreting the EEG recordings.

COMMENT ON LORENZ'S EEG EXPERIMENT

Jean Millay
Washington Research Center
3101 Washington Street
San Francisco, CA 94115

The synchronization of brainwaves between two people has been reported both formally and informally in recent years. Duane and Behrendt (1965) observed simultaneous EEGs of identical twins and found them to be synchronous during part of the study. Ostrander and Schroeder (1970, pp. 218-219) reported a research project in the USSR in which, it was claimed, a hypnotist influenced the brainwaves of a hypnotized subject. Macdonald, Hickman and Dakin (1976) studied brainwave relationships in healer-patient interactions. During the experiment, some synchronous alpha occurred between patient and healer, however the healer reported that his experience of the peak of the healing process occurred just after the synchronous alpha, when his own brainwaves moved into the faster beta range. Millay (1978), using advanced equipment designed by Scully, demonstrated that 7 of 11 couples could increase the percent time of interpersonal brainwave phase synchronization through biofeedback techniques. When a comparison was made between each couple's average brainwave synchronization score and their telepathy scores during attempts at free-response telepathic communication, a statistical correlation was found (p less than .01).

It should be noted that in testing for phase synchronization, two wave forms can be in phase, or directly opposite. Mikuriya (1979) using the Scully phase comparator and an oscilloscope has observed that the wave forms are more often synchronized in opposition than in zero degrees. Beck, using equipment of his own design, observed the same. One of the difficulties of the Lorenz study is that all the analysis was done by a computer at a distance in both space and time, and the computer did not assess both the same and opposing modes of phase coherence. Also, the 23 Hz simultaneous occurrence in both brainwaves might automatically be assumed to be some artifact of the recording equipment, yet it does not appear in all the records. Therefore it cannot be ruled out that the type of fast beta which appears in the brainwaves of the healer of the Macdonald, Hickman and Dakin (1976) study might be related to the type of phenomena which occurs in the Lorenz study. Only a more detailed, and more carefully controlled study with more participants--such as one now in preparation by Kamiya, which will use multiple-channel, on-line computer facilities--could answer these intriguing questions.

References

Duane, T. D. and Behrendt, T. Extrasensory electroencephalographic induction between identical twins. Science, October 15, 1965, 150(3694), 367.

Ostrander, S. and Schroeder, L. Psychic discoveries behind the Iron Curtain. Englewood Cliffs, N.J.: Prentice-Hall, 1970.

Macdonald, R. G., Hickman, J. L., and Dakin, H. S. Preliminary physical measurements of psychophysical effects associated with three alleged psychic healers. San Francisco: Washington Research Center, 1976.

Millay, J. The relationship between phase synchronization of brainwaves and success in attempts to communicate telepathically: A pilot study. Ph.D. Dissertation, Humanistic Psychology Institute, 1979. Available under # 2LD 00 286 from University Microfilm International, P. O. Box 1746, Ann Arbor, Michigan 48106.

Mikuriya, T. Interhemispheric alpha rhythm synchronization: A voluntary altered state of consciousness. American Journal of Clinical Biofeedback, April 1979.

PLANT GROWTH EXPERIMENTS WITH MATTHEW MANNING

James L. Hickman
Washington Research Center
3101 Washington Street
San Francisco, CA 94115

Abstract

Two experiments were conducted in which MM attempted to effect the growth and quality of rye grass and radishes. A significant increase in the yield of rye grass seeds was noted in the first experiment. Significant differences were not obtained in the radish experiment.

Introduction

MM's interest in attempting to affect plant growth presented an opportunity to continue our earlier experiments in this area (Macdonald, Hickman, and Dakin, 1976). MM and JH decided to conduct one well-controlled experiment to replicate previous research and one pilot study with a less rigid protocol which might be of use to private gardeners in daily life. The first task involved three groups of rye grass seeds with controlled watering cycles and statistical comparisons of yield, total height and mean height. The second task involved two groups of radish seeds integrated into an established garden with approximately equal water and comparisons of palatability and yield.

Rye Grass Seeds

JH filled three small glass vials to the top with commercial rye grass seeds, sealed the vials and labelled them A, B, and C. On June 16, JH gave vial A to MM with instructions to increase the normal yield. MM held it between his hands, closed his eyes, concentrated for five minutes, and returned the vial to JH. JH then gave vial B to MM with instructions to decrease the normal yield. MM proceeded as before and returned the vial. MM had no contact with vial C. The vials were then given to a colleague, John Walmsley (JW), who transferred the seeds to new vials, randomly coded them Q, T, and W, locked the code in a safe and returned the vials to JH. JW had no further contact with the experiment until he released the code after the statistics were completed.

To maintain consistent soil conditions, "Jiffy-7" peat pellets were used. These are sterile, compressed pure sphagnum peat. With the addition of water, "Jiffy-7" pellets expand to seven times the compressed size. 1.5 liters of tap water were added to thirty-six peat pellets for the experiment. Then after, the pellets had expanded in size, they were again dried, but retained their larger size. After the peat was thoroughly dry, JH divided the pots into three groups of twelve and assigned one vial of seeds to each group. With a pair of tweezers, JH carefully placed five seeds into each pot two centimeters below the surface. He randomly distributed the pots into

three rows and placed them outside where they were subject to consistent environmental conditions. Mary Payne (MP) watered each pot with fifteen milliliters of tap water once a day. JH counted the number of sprouts and measured the weight of each plant on days 9, 10, and 11 after planting. The results are shown below.

Rye Grass Growth

	Yield or number of sprouted seeds	Total height of all plants in each pot	Mean height or average height of each plant
Day 9	T: 57 total (4.8 per pot)	T: 279.1 mm	T: 4.896 mm
	W: 49 total (4.0 per pot)	W: 241.5 mm	W: 4.929 mm
	Q: 45 total (3.8 per pot)	Q: 207.5 mm	Q: 4.611 mm
Day 10	same as above	T: 338.6 mm	T: 5.940 mm
		W: 299.7 mm	W: 6.116 mm
		Q: 253.9 mm	Q: 5.642 mm
Day 11	same as above	T: 413.3 mm	T: 7.251 mm
		W: 362.9 mm	W: 7.406 mm
		Q: 313.7 mm	Q: 6.971 mm

Group T was originally group A in which MM tried to increase the plant yield. Group W was originally group B in which MM tried to decrease plant yield. Group Q was orignally group C, with which MM did not interact. An F test shows no significant differences between the three groups in terms of average height per plant. Nor were any significant differences noted between group T and group W, nor group Q and group W. However a significant difference ($p < 0.01$, two-tailed) was observed in the comparison of the total height of all plants in each pot between group T and group Q, in the hypothesized direction.

Radish Seeds

Since the outcome of this experiment was intended for consumption, the negative treatment was omitted from this protocol. JH purchased two packages of radish seeds from a local nursery, sealed them in two separate labelled vials and asked MM to increase the yield of one group of seeds. Following the procedure above, the two groups were randomized and returned to JH. He filled two 12" x 24" x 24" planter boxes with commercial potting soil and assigned one vial to each box. After randomly selecting forty-five seeds from each vial, JH planted them in their assigned boxes, carefully following the package instructions. The boxes were placed in MP's home garden and arranged to receive equal exposure to the sun. As a part of her daily

gardening routine, MP gave each group equal amounts of water from the garden hose--approximating the type of care an ordinary gardener might give his plants.

Twenty-three days after planting, JH harvested, counted, weighed and tasted the results. Forty-two of the treated seeds sprouted compared with thirty-two from the control group. However, only thirty-two radishes from the treated group reached table size while twenty-nine of the control radishes were table size. The total weight of the treated plants was 187 grams compared with 152 grams on nontreated radish plants. More green foliage appeared to have grown above the treated radishes than the control group. There was no detectable difference in taste.

These preliminary results indicate that MM's attempt to increase the yield was apparently successful. However, this could have resulted from unequal watering of the two groups, or from chance. In adapting a protocol for use in everyday life, JH sacrificed a necessary control and reached an inconclusive result.

References

Macdonald, R. G., Hickman, J. L. and Dakin, H. S. Preliminary physical measurements of psychophysical effects associated with three alleged psychic healers. San Francisco: Washington Research Center, 1976.

MICRO PSI TESTS WITH MATTHEW MANNING

J. A. Jungerman, R. L. Jungerman
Department of Physics
University of California, Davis 95616

Abstract

Three sessions were conducted in which Matthew Manning attempted to influence a random number generator. Prerecorded targets were interspersed with real-time random numbers. Significant results were obtained with the prerecorded targets during the first session only. Over all three sessions, psi scoring showed a significant decline effect.

Introduction and Experimental Method

A random number generator (RNG) using white noise from a voltage-regulator tube was used (General Radio Company, Cambridge, MA, type 1390A). A CAMAC interface joined the RNG to a PDP15-40 computer. All pulses greater than a certain amplitude were counted in a scalar at approximately 10 kHz. Under program control this scalar was interrogated at 60 Hz and the least significant bit was taken as a binary-random variable. The bit is then compared with a bit generated by a pseudo-random algorithm. If the two match, a 1 is produced, if they differ a 0 is output. Control runs demonstrate that this system is indeed random in output (approximately one standard deviation in two million bits).

The experiment was conducted in three modes. In the first mode, 1024 real-time, random binary numbers constituted a run. In the second mode, 512 numbers are generated real-time and 512 were prerecorded about one minute before the run began, giving a test of time-displaced psi. The experiment is similar to that described by Schmidt (1976). Prerecorded numbers are actually 128 numbers played back four times interspersed randomly with 512 real-time numbers. Information on the video display include cumulative Z scores. In the third mode, 1024 real-time binary numbers are grouped into octal sets. The task is to match successive octal numbers generated at 10/second. Visual feedback via video console shows the octal matching rate, relative to chance rate (1/8). Printout gives real time as well as future- and past- time matchings to $\pm$ 0.4 second.

The criterion for non-random behavior is a correlation between pseudo-random and random sequences, which is unlikely, neglecting psi effects.

The computer program constructs a moving average of the last 20 trials. This moving average, representing the hit rate during the last 2 seconds (if 10 trials/sec are chosen), is displayed to the subject on a graphics teletype. The subject sees an oscillating hit rate vs time plot forming about a stationary chance level horizontal

line. After each run of 1024 trials, results are printed out on the subject's terminal, on a hard-copy experimenter teletype, and on magnetic tape. Additional information including the data and time of the run and already--analyzed data are also recorded on the tape. Other programs sort the data and give cumulative subject totals on a printer as to psi effects on real time as well as prerecorded targets.

This experiment is a continuation of the paper titled, "Computer Controlled Random Number Generator PK Tests", presented by the authors, at the 1977 Annual Meeting of the Parapsychological Association. The protocol in that experiment used the first two or three runs only. This is in agreement with the work of Andre (1972). Figure 1 and Table 1 show the results obtained from that experiment. In the work herein described with MM, the runs were continued beyond three (on June 4 and June 5) at MM's request.

The experimenter, JAJ, initiated the program by typing in the subject's name, MM, at his teletype. When he was ready, the subject typed a key at his terminal to initiate a 1024 trial sequence. After learning the results he could initiate additional trials when he wished. Manning was simply instructed to "move" the graphics display, which included both real-time and prerecorded targets. If "U" were typed in, a positive Z score was obtained if the moving average was above the chance line. Initiating a run with "D" typed in indicated a volition to move the moving average down. The experimenter has no knowledge of the subject's choice of "U" or "D". This may help to eliminate the former's influence on the experiment; and a further result of this protocol was our theoretical inability to distinguish psi effects from precognition.

Results

The Z score is calculated from the expression:

$$Z = \frac{\text{no of hits} - 64}{\sqrt{32}}$$

The cumulated Z score is obtained from

$$Z_{cum} = \sum_{i=1}^{n} \frac{Zi}{\sqrt{n}}$$

where n is the number of runs.

The data, as illustrated in the Table 2, shows significant psi effects for the prerecorded target series, and nonsignificant scoring for the octal-matching and real-time series. Of considerable interest are the sessions in which real-time targets were mixed with randomly recorded targets:

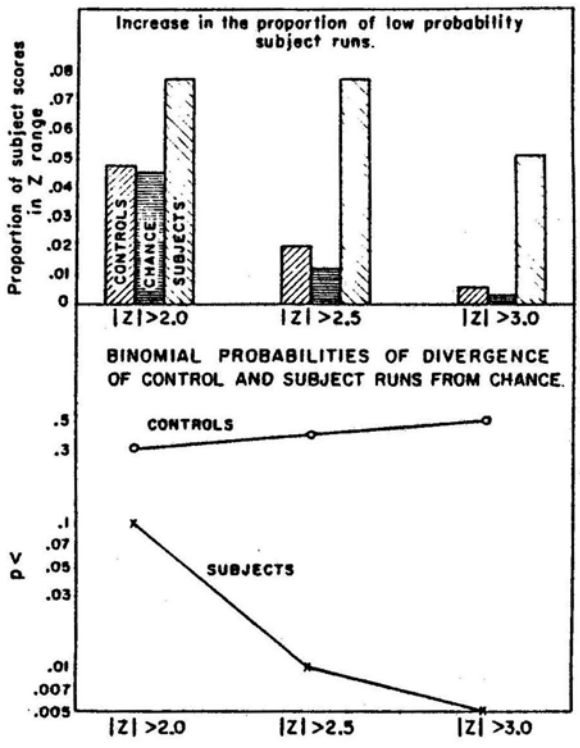


Figure 1.

Table 1

RESULTS OF THE PK EXPERIMENT

Z scores are a composite of the first two runs of a subject on a given day.

Z's of significant runs ($\|Z\| \geq 2.0$)	Cutoff z	# runs with $\|Z\| \geq z$	2-tailed normal probability of z	Binomial probability
Subject runs:				
3.1 -3.4 out of 39 2.6 subject-days	2.5	3	p=.012	p< .01
	3.0	2	p=.0027	p< .005
Control runs:				
-2.0 -2.5 2.5 out of 150 2.3 tests -2.3 -3.0 2.2	2.0	7	p=.045	p< .3
	2.5	3	p=.012	p< .4
	3.0	1	p=.0027	p< .5

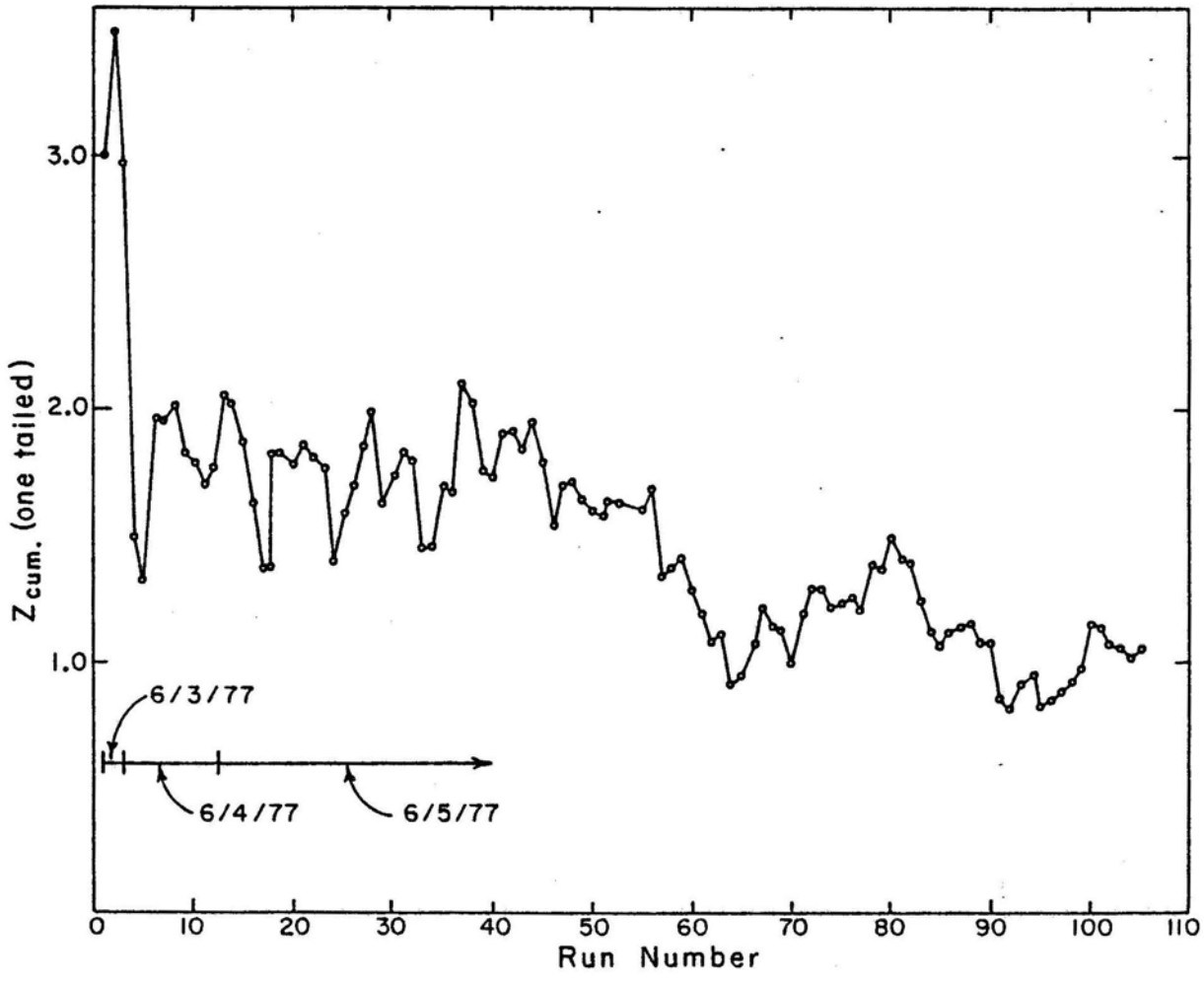


Figure 2. Cumulative z scores from pregenerated targets.

Table 2

		Z scores each run			Z total	Z cum	P (2 tailed)
Real-time Targets							
Run 1	June 3	-0.354	-1.162		-1.07	2.02	2.8×10^{-1}
Run 2	June 4	0.088	-0.088	-0.177	-1.02	-0.828	4.1×10^{-1}
Run 3	June 5	1.061	-1.149	-0.119	-0.408	-0.714	4.8×10^{-1}
Pregenerated Targets							
Run 1	June 3	3.005	1.945		3.50	3.50	4.6×10^{-4}
Run 2	June 4	0.117	-2.121	0.000	-1.12	1.73	8.4×10^{-2}
Run 3	June 5	-0.35	-0.707	-0.884	-1.12	0.35	7.3×10^{-1}
Octal Matching							
Run 1	June 3	-0.609	-0.609	1.690	0.273	0.273	7.9×10^{-1}
Run 2	June 4	1.149	0.879	-0.338	0.980	0.833	3.8×10^{-1}
Run 3	June 5	0.879	-1.149	1.826	0.898	1.240	2.2×10^{-1}

Software for this experiment was written by R. Jungerman.

The real-time Z score for June 3 was -1.07 and the Z score of the difference between the prerecorded and real-time targets was 3.58 ($P < 3.4 \times 10^{-4}$). A friendly, competitive spirit arose during the evening session which we believe contributed to positive results. MM's prerecorded target cumulative Z score was 3.50 on that occasion ($P = 4.6 \times 10^{-4}$, two tailed). The binomial probability that at least one of the nine experimental runs would obtain such results is itself less than 0.01.

On the next day, JAJ and MM returned alone to the laboratory and the results showed a strong decline effect. At MM's suggestion, ten trials were attempted on this day. The accumulated Z score hovered about Z = 1.8 ($P < 7.2 \times 10^{-2}$, two tailed). The following day (5 June, 1977) we tried for the third time, again with only JAJ and MM present. On this occasion, MM insisted on trying a total of ninety runs. The first three were done at a trial rate of 10/sec and the remaining eighty-seven at a rate of 60/sec in an attempt to relieve boredom. Figure 2 shows that no great change in the Z score occurred at this time (run 16), although a steep decline in the cumulative Z score was reversed at that point.

A rather constant Z score of about 1.8 persisted until run 45 when a slow but steady decline set in terminating at run 105 with a Z score of 1.05. The real-time cumulative Z score was never significant and its final value was -1.19. The final cumulative Z score of the difference between pregenerated targets and real-time targets was 1.50 which is suggestive only of improved performance on pregenerated targets.

The above indicates to us that even with a talented subject, laboratory psi tasks appear to have a definite decline effect. The results also suggest that a competitive social environment might be helpful for good psi scoring. Another program, "Psychic Pong", has been written to test this hypothesis.

References

Andre, E. Confirmation of PK action on electronic equipment. Journal of Parapsychology, 1972, 36(4), 283-293.

Jungerman, R. L., and Jungerman J. A. Computer-controlled random number generator PK tests. Paper presented at the 1977 Annual Meeting of the Parapsychological Association.

Schmidt, H. PK effect on prerecorded targets. Journal of the American Society for Psychical Research, 1976, 70(3), 267-291.

EPILOGUE

EPILOGUE

Matthew Manning
Queen's House
Linton Cambridge CB1 6HS
England

To the best of my knowledge, this is the first time that a subject of parapsychological research has written a commentary concerning his participation in experimentation. I hope that it is a procedure that will be adopted more frequently in the future as I consider it to be most beneficial to researchers and subjects alike.

My first suggestion is that experiments with flawed protocols should not be conducted. Either an experiment is a properly controlled exercise, or it is a waste of time and energy. This applies particularly to the radish seed experiment which was spoiled by inadequate control of the water given to the seeds.

An important consideration which should be adopted in future work is the timing of experiments which, I believe, should be controlled by the subject. This was not the case during these experiments and contributed, I suspect, to insignificant results on some tests which subsequently have been successfully conducted elsewhere. Since these experiments, I have decided to participate in only three or four experiments each day which are conducted when I feel so inclined. Although this recommendation makes me appear to be a prima donna in some eyes, it has already resulted in significant results around 95% of the time. Too often subjects are engaged in one task after another with little consideration for breaks or rest periods; they are also expected to fit a nine to five routine with some researchers. Surely it is better to conduct three successful experiments each day than attempt twenty which result in non-significant results.

I am pleased to see that finally spontaneous occurrences have been reported. For so long these have been ignored and rejected by researchers who claim that they occurred under uncontrolled conditions. If they are reported as such they may provide important insights into the mechanics of psi energy. I consider the incidents involving Stanley Krippner's watch, RA and the computers, and Jack Kerolis and the printed page, to be particularly interesting as they indicate that my presence may act to exteriorize some innate psi capacities as RA suggested. Of course, any one of these incidents is a "coincidence," but how often can a coincidence occur? Frequently, it seems!

Another effect that seems to occur with more than coincidental frequency is alluded to in the report of Fred Lorenz; it is what I have come to term the "Cosmic Joker Effect." The difficulties he encountered in determining a random sequence are

common, as is the malfunction of machinery which is later in perfect working order. I have wondered if this occurs to prevent a potentially dangerous experiment from being conducted. The non randomization of shuffled cards, coin tossing, etc., has now become known as a "Lorenz Shuffle" by other researchers with whom I've since worked! The same non randomization also afflicted Charles Tart's random number generator during another experiment to be published in another journal, I believe.

It's as if somebody is saying, "Why bother with all this? Accept, and be aware that you are seeing only the flowers, i.e. the phenomena. The roots are more important because without them you have no flowers."

It is what is beyond, the spiritual element in each of us, which is important. The flowers are merely to attract attention, but they wither and die. That, I feel, is the importance of my work. I am a "hooker" in that the flowers attract people like butterflies searching for nectar. Eventually they become aware that flowers have roots. If I've made people stop and think, made them aware that there is more to life than a materialistic awareness, I have succeeded in my aim. In each of us there is something which survives, searches and grows.

I would finally like to thank all those involved in these experiments for their time, vision, and help. I would like especially to thank for their kind hospitality Dave and Jane Deamer, Jim Hickman, John and Nancy Jungerman, Fred Lorenz, John Palmer, Mary Payne, and Bob and Candace Williamson.

3101 WASHINGTON STREET
SAN FRANCISCO, CA 94115

RECENT PUBLICATIONS

from **Washington Research Center** and **H. S. Dakin Company**
(Partial List)

Documents of the Christian Committee for the Defense of Believers' Rights in the USSR (Moscow). Reprints and translations from samizdat originals, edited by H. S. Dakin and others. Volumes 1 through 9, 1006 + dxxxxvi pages. WRC, 1978 and 1979, $1.95 to $9.95.

Evolutionary Transformations of the Human Body, by J. L. Hickman, WRC, 60 pp., WRC, 1978, $5.00.

Gravitational Magnetism, by S.-P. Sirag, reprinted from **Nature,** WRC, 1979, $5.00.

High-Voltage Photography, by H. S. Dakin, 79 pp., HSDC, 1975, $4.95 (T).

High-Impedance Voltmeter, by H. S. Dakin, 15 pp., HSDC, 1978, $9.95.

Kundalini - Psychosis or Transcendence? by L. Sannella, M.D., 118 pp., HSDC, 1976, $3.95 (T).

Letters from Moscow - Religion and Human Rights in the USSR, by Fr. Gleb Yakunin and Lev Regelson (Moscow), edited by Jane Ellis. 148 + vi pp., Co-published by HSDC and Keston College (Keston, England), 1978, $4.95.

Patterns of Prophecy, by A. Vaughan, 253 pp., Dell Publishing Co., 1973, $3.00 (T).

Preliminary Investigation of Events which Suggest the Possible Applied Psi Abilities of Mr. Ted Owens, by J. Mishlove, 50 pp., WRC, 1978, $5.95.

Preliminary Physical Measurements of Psychophysical Effects Associated with Alleged Psychic Healers, by R. G. Macdonald, J. L. Hickman, and H. S. Dakin, 51 pp., WRC, 1976, $5.00.

The Realms of Healing, by S. Krippner, Ph.D. and A. Villoldo, Celestial Arts, 1976, $6.95 (T).

Radiation Measurement and Control Devices, by H. S. Dakin, 110 pp., WRC, 1978, $7.95.

Roots of Consciousness, by J. Mishlove, 341 pp., Random House, 1975, $9.95 (T).

A Shamanistic Seed-Dream Interpretation: the Bird-Man Mural at Lascaux, by B. Honegger, reprinted from **Phoenix,** 1978, 8 pp., $1.95.

WASHINGTON RESEARCH CENTER (WRC), a non-profit organization, conducts research and development projects in the following areas: computerized information processing systems; electronic instrument design; physics, psychology, and parapsychology research; translation and publication of documents on scientific and philosophical subjects. WRC is supported by contributions and voluntary efforts of research associates and others. **Research associates** include (partial list) Stanley Krippner, Ph.D., Lee Sannella, M.D., Jean Millay, Ph.D., Jeffrey Mishlove, Janelle Barlow Mishlove, Ph.D., Henry S. Dakin, Mitchell Waite, James L. Hickman, Mary Payne, Michael Murphy, Dulce Murphy, Saul-Paul Sirag, Barbara Honegger, Krista Hanson, Mary Lou Carlson, Eleanor C. Ritter, Harold Treacy, Tracy L. Deliman, M.A., Alan Vaughan, Roger G. Macdonald, Richard Lowenberg, Peter Petrusev, Fr. Stefan Pavlenko, Lev L. Regelson, Fr. Gleb Yakunin.

H. S. DAKIN COMPANY (HSDC) publishes and distributes books, and provides electronic instrument design consulting services.

PUBLICATIONS LISTED ABOVE are available by mail order from **H. S. Dakin Company, 3101 Washington Street, San Francisco, CA 94115, USA,** (415) 931-2593, or from WRC at the same address. Trade publications, available to retail dealers from Bookpeople (Berkeley) and other distributors, are indicated by (T). For **single copy** postage and shipping charges, add 15% (US or foreign surface rate) or 50% (foreign air mail) to book prices. Dealers' discounts: 1 copy, 20%, 2 to 19 copies, 40%, 20 or more copies, 50%. [RO679]