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Final Report *October 1978*

ADVANCED THREAT TECHNIQUE ASSESSMENT (U)

By: HAROLD E. PUTHOFF RUSSELL TARG EDWIN C. MAY INGO SWANN

WARNING NOTICE

Sensitive Intelligence Sources and Methods Involved

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Final Report *October 1978*

Covering the Period 18 April 1977 to 15 April 1978

ADVANCED THREAT TECHNIQUE ASSESSMENT (U)

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Consultants

SRI Project 5309

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Approved by:

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ILLUSTRATIONS (U)

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I OBJECTIVE (U)

(S) The purpose of this program was to provide a basis for assessing psychoenergetic processes as an advanced threat technology that could be in development by the USSR.* Psychoenergetic processes include:

(1) The acquisition and description, by mental means, of information blocked from ordinary perception by distance or shielding and generally believed to be secure against such access.

(2) The production of physical effects such as the perturbation of equipment or instrumentation that appears to be well shielded against, or otherwise inaccessible to, human influence.

(S) This study was undertaken to determine the state of the art, to identify key development trends and technical parameters, and to provide indicators that suggest particular advanced-threat-related applications.

(U) There has been no attempt in this program to emphasize basic research, nor to attempt development of specific applications. Furthermore, since funding levels were limited, extensive proof of the phenomena under study was not intended. However, basic evaluation guidelines were established as an aid in forming judgements on the apparent degree of success, or lack of success, of the various types of investigations. Some investigations were more amenable to

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*(C) Evidence that such development is taking place is documented in a series of intelligence community documents,[1-6]† and attention has been called to this area by the U.S. Intelligence Board's (USIB) Scientific and Technical Intelligence Committee (STIC) in a document entitled "Views on Emerging Areas of Science and Technology Potentially Important to National Security (C)."[7]

†(U) References are listed at the end of this document.

(U)

statistical verification; others involved subjective as well as objective judgements. There is generally a lack of agreement as to what constitutes sufficient proof of a particular paranormal phenomena, and this effort did not attempt to develop specific tasks to provide proof of such phenomena which would be satisfactory to all readers. However, insights gained from these investigations are considered to be of value in evaluating potential gains as well as potential difficulties that could be experienced by possible Warsaw Pact development in this area.

II EXECUTIVE SUMMARY (U)

A. Definition (U)

(U) Recent publications in both the open and classified literature provide mounting evidence for the existence of so-called "parapsychological," "paraphysical," or "psychoenergetic" processes. These processes include:

(1) The acquisition of information not presented to any obvious sense. These are perceptual processes that act as information input to a human subject (remote viewing, telepathy, dowsing, etc.).

(2) The production of physical effects not mediated by any obvious mechanism. These are perturbation (psychokinetic) processes that act as action output from a human subject (the generation of fields, temperature changes, mechanical forces, physiological effects, etc.).

B. Psychoenergetic Processes (U)

(U) A breakdown of the various psychoenergetic processes of interest is shown in Table 1. A matrix or "road map" of the various areas under current investigation in our laboratory and elsewhere is shown in Table 2. Its structure reflects the three major areas of activity:

- Cataloging the characteristics of the phenomenon, such as resolution, reliability, bit rate, effects of shielding, etc., including investigation of various models (e.g., electromagnetic).
- Ascertaining the correlates of paranormal functioning that may lead to screening and training (psychological conditions, medical profiling, environmental factors, etc.).
- Determining application potential with regard to: alternate communications systems, enhanced environmental monitoring (near and far), application to information security processes, enhanced man/machine interactions, etc.

Table 1

(U) BREAKDOWN OF THE VARIOUS PSYCHOENERGETIC PROCESSES (U)

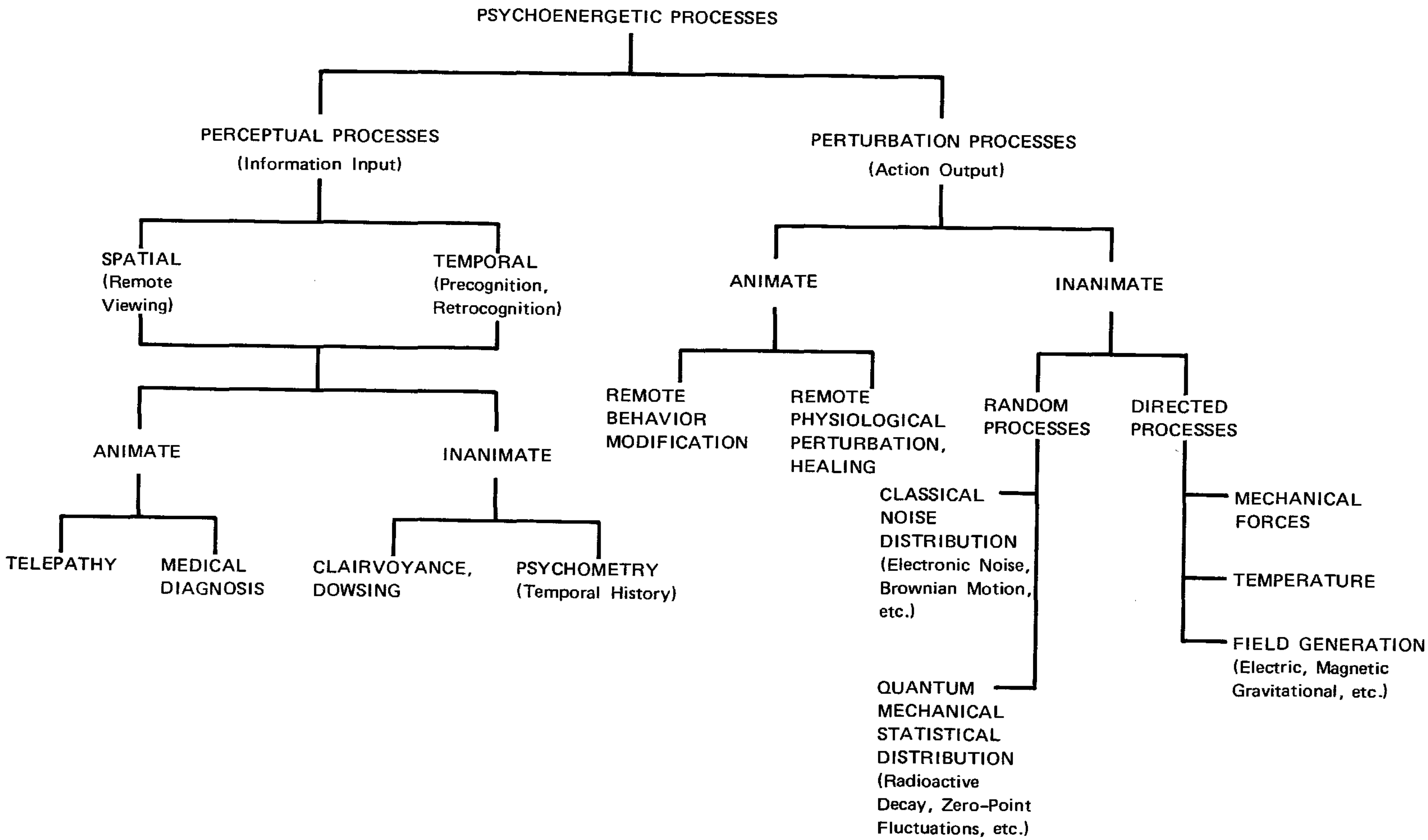

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Table 2

(U) ACTION ITEM AREAS FOR RESEARCH IN PSYCHOENERGETICS (U)

- EXPERIMENTATION AND ANALYSIS OF PSYCHOENERGETIC PROCESSES
  - CHARACTERISTICS, ANALYSIS, AND THEORY
    - CHARACTERISTICS
      - SPATIAL AND TEMPORAL RESOLUTION (Target Size, Repetition Rate, Targets in Motion)
      - RELIABILITY (Subject Confidence, Coding Enhancement)
      - TARGETING (Geographic Coordinates, Biographical Histories, Target Agent, Electronic Information Storage)
      - SHIELDING (Electromagnetic and Other)
      - ROLE OF CONSCIOUSNESS (Computer-Controlled and Scored Versus Human-Mediated Experiments)
      - ROLE OF FEEDBACK (Psychological Factors, Precognitive Mechanisms)
    - MECHANISM-INDEPENDENT ANALYSIS
      - INFORMATION THEORY, CODING (Bit Rate, Redundancy Required, Message Transmission, Judging Techniques)
      - PSYCHOPHYSICS
        - ANALOGS TO ORDINARY PERCEPTION (Perceptual Tasks Paralleling Ordinary Perception)
        - BRAIN-HEMISPHERIC LOCALIZATION
    - MECHANISMS
      - STRAIN GAUGE EXPERIMENTS
      - NOISE PERTURBATION (Radioactive Decay, Electronic Noise)
      - ELECTROMAGNETIC EFFECTS (ELF Beacons, Jamming, Submersible Shielding, Propagation Velocity)
      - QUANTUM MECHANICS (Non-locality, Quantum-Interconnectedness, Holographic)
      - MULTI-DIMENSIONAL (Complex Space/Time)
  - PSYCHOPHYSIOLOGICAL CORRELATES
    - PHYSIOLOGICAL CORRELATES (EEG, GSR, EMG)
    - PSYCHOLOGICAL, MEDICAL PROFILING
    - ENVIRONMENTAL FACTORS (Sensory Deprivation, Altered States, Stress Environments, Experimenter Effects [Psychological Factors, Psi/Anti-psi Syndrome])
    - EDUCATIONAL PROCEDURES
      - SCREENING (Children Identical Twins, the Blind)
      - TRAINING (Feedback, Reinforcement, Target Optimization)
  - APPLICATION POTENTIAL
    - ENHANCED ENVIRONMENTAL INFORMATION MONITORING
    - ALTERNATE COMMUNICATIONS CAPABILITIES
    - GENERATION OF ADDITIONAL INFORMATION SECURITY PROCESSES
    - ENHANCED HUMAN/MACHINE INTERACTIONS
    - CREATION OF NEW INDUSTRIAL COMPONENTS
    - NEW APPLICATIONS IN SYSTEMS TECHNOLOGY AND ENERGY ECONOMICS
    - POTENTIAL APPLICATIONS TO SATELLITE AND INTERPLANETARY COMMUNICATIONS
    - ALTERNATE MEDICAL/PSYCHOLOGICAL TREATMENT STRATEGIES
    - PRODUCTION OF NEW EDUCATIONAL METHODS

C. SRI Work (U)

(U) In order to meet the objectives of this program, SRI investigators have for the last six years been concentrating primarily on a particular human information-accessing capability that we call "remote viewing." This phenomenon pertains to the ability of certain individuals to access and describe, by means of mental processes, information blocked from ordinary perception by distance or shielding, and generally believed to be secure against such access. This has included the ability of subjects to view remote geographical locations, even at intercontinental distances, given only geographical coordinates or a known person on whom to target.

(S) The remote viewing abilities of several subjects have been developed to the point where they can describe--often in great detail--geographical and technical material such as natural formations, roads, buildings, interior laboratory apparatus, and real-time activities.

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[redacted]

1. Advances of the Current Contract Period (U)

(U) Three major advances stand out in this year's effort with regard to work with our two experienced subjects. They are:

(1) An observed increase in reliability of psychoenergetic functioning as a result of practice, to the point where the year's major effort in a long-distance remote viewing application resulted in data of high information content with little error.

(2) The successful application of the remote viewing function as a communications (message-sending) medium, carried out in a semi-operational stress environment (submerged submarine).

(3) An observed increase in spatial resolution discrimination, to resolution on the order of a millimeter.

These advances are illustrated in the following three examples.

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[redacted]

b. <u>Example: Communication with a Submerged Submarine via the Remote-Viewing Channel</u> (U)

(U) As an example of remote viewing applied in a communication mode, we present here a synopsis of a second experiment described in further detail in Section IV.

(U) The goal of the experiment was to determine whether it was possible to transmit a message to a submerged submarine via the remote-viewing channel. The test was designed to provide not only an opportunity to determine the feasibility of psychoenergetic communication with an isolated individual, but also to provide data on the effects of environmental stress on psychoenergetic performance, and on the possible shielding effects of several hundred feet of sea water (known to be a good shield for all but the lowest frequencies of the electromagnetic spectrum).

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*(U) As an overall calibration of the remote viewing process, against which specific examples such as the above can be gauged, we can take as a background data base a lengthy collection of 51 remote viewing trials collected over a several-year period with nine subjects, and published by the authors in <u>Proc. IEEE</u>.[9] In these trials subjects were targeted on local targets (bridges, swimming pools, theaters, airports, computers, machine shops, etc.) within a 20 km range of SRI. The method of targeting was that the subject "tracked" investigators who were to visit an unknown target site at a prearranged time. The protocol for this standard remote-viewing experiment is given in Appendix A. The quality of the results was such that the judges, who had to determine in a blind fashion which subject-generated data packages (tape transcripts and drawings) were associated with which target sites, were able to blind-match transcripts to targets in roughly half the cases. Details are presented in Ref. 9.

(U) Further calibration data are given in Appendix B. Presented there are key experiments in long-distance coordinate remote viewing generated for this program during the previous year.

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(U) The submersible used in the experiment was the Taurus, a five-man underwater vehicle manufactured by International Hydrodynamics Company Ltd. (HYCO) of Canada. During the experimentation discussed here, the submersible operated submerged in the waters near Santa Catalina Island, off the coast of southern California.

(U) The protocol for the experiment was as follows. A series of six potential messages to be sent (see Table 4) was constructed in advance of the experiment. To each message was assigned a San Francisco Bay Area target location. To send a given message, a pair of investigators comprising a target demarcation team went at a prearranged time to the site linked to the particular message and remained there for 15 minutes. During this period a subject on-board the submersible, monitored by an investigator blind to the target pool, registered his impressions as to where the demarcation team was, 500 miles away, as per standard remote viewing protocol. Following the remote-viewing trial, the subject then consulted a list of potential targets (seen for the first time at this point), made a choice as to which target of the set he had described, and noted the associated message.

Table 4

(S) MESSAGE SET (U)

Message
Remain submerged for two days
Evasive plan six
*Rendezvous at pickup point three
Proceed to base one
Standby alert on priority targets
*Launch priority targets

*Messages sent via remote-viewing protocol.

(U) Two experiments of this type were carried out, one each with two subjects. For this first experiment the submersible was at a depth of 170 m in water 340 m deep; for the second the submersible rested on the bottom in 80 m of water. In both cases the subjects rendered excellent descriptions of the target sites, and had no difficulty in choosing the correct target from the list of six potentials targets. Although the subjects indicated that they had experienced some degree of stress due to cramped conditions and seasickness, these environmental factors did not appear to affect the quality of performance deleteriously.

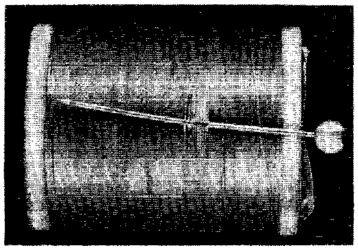
c. Example: Resolution Studies (Objects Hidden in Metal Containers) (U)

(U) In order to obtain an estimate of the resolution capability of the remote-viewing process, a subject was asked to render descriptions of objects hidden in small light-tight metal containers (35 mm film cans) located 1/8 mile distant from the subject. The location of the object was known to the subject only as being on the person of an investigator outbound to an unknown site. During the experiment no investigator involved in the study knew the target, the target canisters having been previously prepared and randomized by an investigator outside the project.

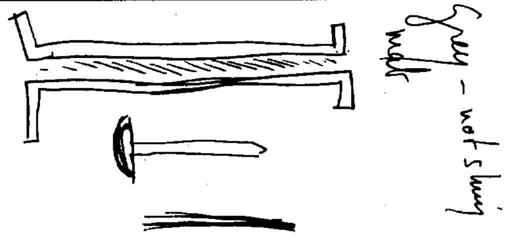
(U) A sequence of ten trials were carried out, and the resulting subject transcripts and drawings were blind-matched to the targets by an independent judge with statistically significant results. Figure 1 shows the targets and responses for the first five trials. As indicated in the figure caption, the quotations accompanying the drawings are taken from the first paragraphs of the subject responses. These data indicate that the psychoenergetic channel functions with a spatial resolution down to at least the order of one millimeter.

2. Remote-Viewing State of the Art (U)

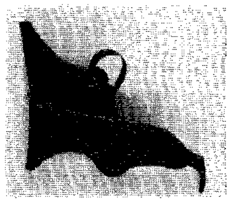
(S) The more important results of our investigation to date can be summarized as follows:



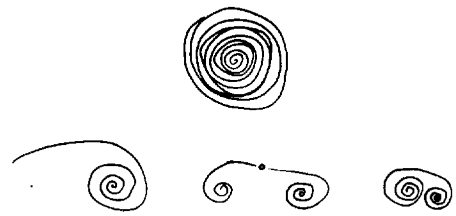
SPOOL AND PIN



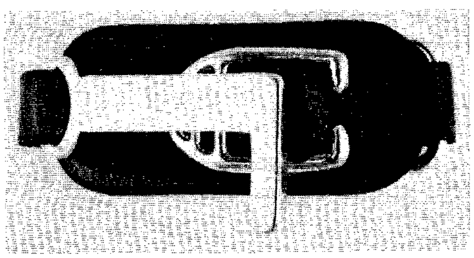
"IT'S DEFINITELY SOMETHING THIN AND LONG. . . WITH A NAIL HEAD AT THE END . . . SILVERED COLORED."



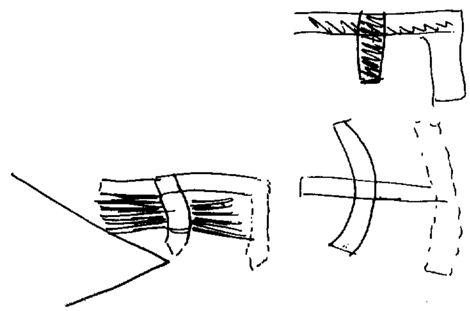
CURLED UP LEAF



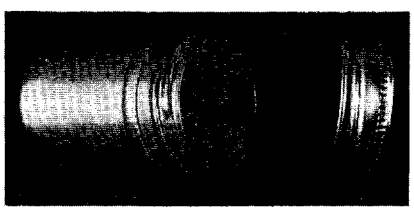
"A NAUTILUS SHAPE WITH A TAIL."



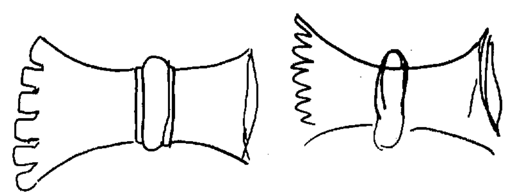
LEATHER BELT KEYRING



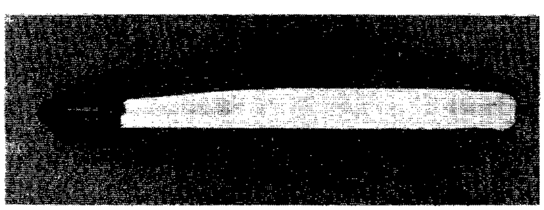
"THE STRONGEST IMAGE I GET IS LIKE A BELT."



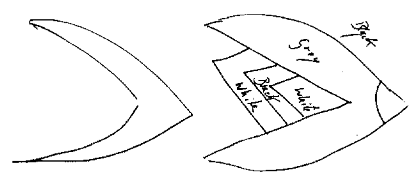
CAN OF SAND



"LIKE A MINIATURE TOWER . . . SCALLOPED BOTTOM . . . LIGHT BEIGE."



GREY AND WHITE QUILL



"LIKE A PENGUIN . . . GREY AND BLACK AND WHITE . . . POINTED OR SLIGHTLY ROUNDED OFF AT THE TOP . . . OPEN OR POINTED AT THE BOTTOM."

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FIGURE 1 TARGET OBJECTS IN METAL CONTAINERS. Captions under subject drawings are quotes from first paragraph of transcript. (U)

(S)

- Target acquisition--Subjects can acquire target site on the basis of the presence of a known person at the site; targeting by geographical coordinates without the presence of a known person at the site yields results comparable to those obtained in experiments in which a person known to the subject is used as a target. This observation offers evidence for goal-oriented as opposed to means-oriented interpretation of the "laws" that appear to govern psychoenergetic functioning.

- Target attributes sensed--Descriptive aspects (shape, form, color, material) are described better than analytical concepts (function, name), although at times the latter come through excellently. Written target material is correct only occasionally. Alphabet targets are successful only statistically. In addition to visually observable detail, subjects sometimes report sounds, smells, electromagnetic fields, and other phenomena that can be verified as existing at target locations.

- Spatial and temporal resolution--The channel functions with spatial resolution down to at least one millimeter. Real-time activities at the target site are often perceived. Experiments have included successful real-time remote viewing of Minuteman and Poseidon static test firings in the western United States (with differentiation between successful firings and scrubs, and timing to within ten seconds). Ephemeral, rapid, or repetitive targets are more difficult.

- Distance effects--Accuracy and resolution are not sensitive functions of subject-target distance over intercontinental distances.

- Shielding--Faraday cage or sea water electrical shielding are not effective shields.

- Factors that appear to inhibit success in remote viewing--These are a-priori subject knowledge of target possibilities, absence of feedback, application of the ability to trivial tasks (testing for the sake of testing), and use of repetitive target sequences.

- Factors that appear to enhance success in remote viewing--These are interest factors for the subject, a-priori necessity and relevancy for obtaining information (seriousness of purpose), the presence of a facilitating monitor to ask questions and direct the subject's attention, and practice with feedback.

- Accuracy and reliability--Analysis of remote-viewing transcripts generated by experienced subjects indicates that for a given target site roughly two-thirds of the subject-generated material constitutes an accurate description of

(S)

the site, while about one-third is ambiguous, general, or incorrect.

- Repeatability of phenomena--Continuing demonstrations in this program,[10-13] and replications in other laboratories,[14-19] indicate that the capability known as "remote viewing" is a repeatable human perceptual ability.
- Distribution of psychoenergetic capacity in population--Abilities appear widespread, though latent; volunteers with no previous history of psychoenergetic functioning exhibit ability in screening experiments, indicating that reliance on the availability of special subjects may not be necessary. Unknown, however, are the percentage of population trainable or with natural talent, the optimum screening procedures, and the medical or psychological profiles of good subjects.
- Threat potential--Remote viewing, through the use of geographical coordinates as designators, has in many cases provided meaningful descriptions of East-Bloc military facilities designated as targets by the sponsor; evaluation by appropriate intelligence community specialists indicates that a subject is able by this process to generate useful data corroborated by other intelligence data; as is generally true with human sources, the information is fragmentary and imperfect, and is therefore best utilized in conjunction with these other resources; nonetheless, the data generated by this process appears to exceed any reasonable bounds of chance correlation or acquisition by ordinary means, and therefore constitutes a potentially exploitable information source.

III LONG-DISTANCE COORDINATE REMOTE-VIEWING EXPERIMENTS (U)

A. Introduction (U)

(S) One of the primary objectives of this program is to provide a basis for evaluating various psychoenergetic capabilities. This is done specifically to assess the probability that such capabilities might be under development in the USSR as an advanced threat technique that could form the basis of future technological surprise.

(S) To aid in this assessment a significant part of the study is devoted to evaluating application feasibility by examining U.S. capabilities. This assessment of application feasibility takes the form of our asking subjects in this program to view and describe remote sites chosen by the project's contract monitor as being sites of interest, [redacted]

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(U) Two procedures are used for targeting the subject on the site. In those cases where feasible, a person known to the subject is dispatched to the vicinity of the site and the subject is asked to target on that individual, who plays the role of a beacon--i.e., apparently acts as an aid in the focusing process. For those sites where deployment of a cooperative person to the site is not feasible, we employ an abstract targeting procedure developed in an earlier program.[10] In this procedure the site coordinates (latitude and longitude in degrees, minutes, and seconds) are relayed with no further information to the subject. The subject who is to view the site is asked simply to proceed on the basis of the coordinate alone. The materials generated in the experiment are then turned over to the project monitor for evaluation.

(U) Admittedly, such an abstract targeting procedure seems without basis in logic (at least with regard to the present scientific paradigm), and we can make no claim for the technique other than the purely pragmatic one that it appears to work. We can only point out that in psychoenergetics research in general, the possibility of success in such an

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experiment is in accord with the observed "goal-oriented" nature of the laws that appear to govern such functioning.

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IV LONG-DISTANCE REMOTE VIEWING FROM A SUBMERSIBLE

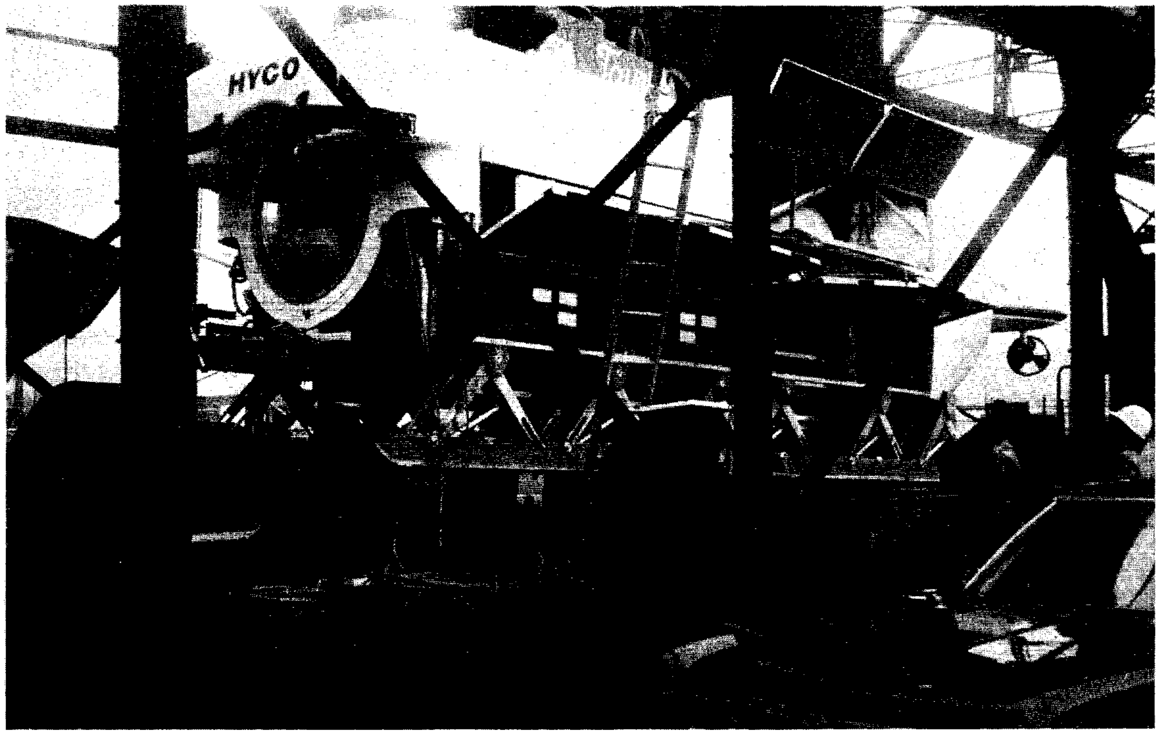
In July of 1977 SRI carried out experiments in remote viewing from a submersible submerged in 500 ft of sea water, approximately 500 miles from the target site.

The goal of the experiment was to determine whether it was possible to transmit a message to a submerged submarine via the remote-viewing channel. The test was designed to provide not only an opportunity to determine the feasibility of psychoenergetic communication with an isolated individual, but also to provide data on the effects of environmental stress on psychoenergetic performance, and on the possible shielding effects of several hundred feet of sea water (known to be a good shield for all but the lowest frequencies of the electromagnetic spectrum). Neither the stress, nor distance, nor seawater attenuation appeared to degrade the quality of the remote-viewing function in any way.

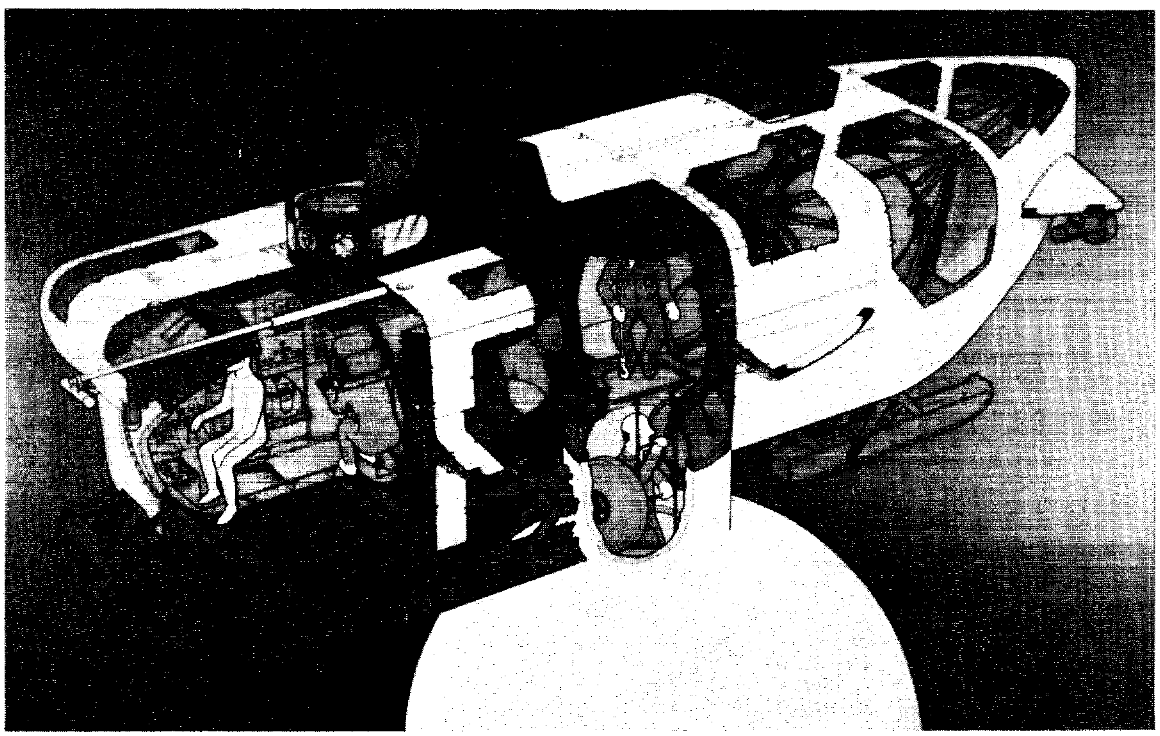
The submersible used in the experiment was the Taurus, a five-man underwater vehicle (see Figure 10) manufactured by International Hydrodynamics Company Ltd. (HYCO) of Canada. (The Taurus was made available to SRI by Mr. Stephan Schwartz of the Philosophical Research Society of Los Angeles, who had arranged for its use in an underwater archaeology experiment.) During the experimentation discussed here, the submersible operated submerged in the waters near Santa Catalina Island, off the coast of southern California.

A. Communication Experiment

The protocol for the experiment was as follows. A series of six potential messages to be sent [see Table 4 in the Executive Summary (Section II)] was constructed in advance of the experiment. To each message was assigned a target location in the San Francisco Bay Area. To send a given message, a target demarcation team went at a prearranged



(a) PHOTOGRAPH (U)



(b) SECTIONAL VIEW (U)

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FIGURE 10 SUBMERSIBLE TAURUS (U)

time to the site linked to the particular message and remained there for 15 minutes. During this period a subject on-board the submersible, monitored by an investigator blind to the target pool, registered his impressions as to where the demarcation team was, 500 miles away, as per standard remote viewing protocol. Following the remote-viewing trial, the subject then consulted a list of potential targets (seen for the first time at this point), made a choice as to which target of the set was viewed, and noted the associated message.

Four trials were planned in accordance with a prearranged time schedule. The first trial was aborted because the submersible did not follow its diving schedule. For the second trial the submersible was at a depth of 170 m, in water 340 m deep, and the subject was asked to describe his impressions of the location of the outbound team. (The outbound team had chosen their location to designate the particular message to be sent.) Having completed the response, the subject was handed the list of target descriptions and asked to choose which of the six target locations appeared to match the description.

Figure 11 shows the subject's response. The outbound team had chosen the large oak tree shown in the figure. (An interesting note: Because of a timing error the subject's narrative began while the outbound team was still enroute to the target site.) The subject correctly (and extensively) described a large tree, and also correctly described a drop-off behind the outbound team. In this experiment the subject was able to identify the correct target on the list and was thus able to obtain the associated correct message, "Rendezvous at Pickup Point Three."

The third trial aborted because of a lack of synchronization between submarine dives and target visitation. For the fourth trial, the outbound team again went at a prearranged time to one of six possible locations, chosen from a new list, a shopping mall shown in Figure 12. In this trial the submersible rested on the bottom in 78 meters of water. Figure 13 shows the subject's response to the target. The subject correctly indicated the flat stone flooring, small pool, reddish stone

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FIGURE 11 SUBMERSIBLE EXPERIMENT NUMBER 1: 170 m DEEP IN 340 m OF WATER. 16 July 1977. Target was a giant oak on a hilltop in Portola Valley, California. Subject's first words were: "A very tall looming object. A very, very, huge tall tree and a lot of space behind them. There almost feels like there is a drop-off or a palisade or a cliff behind them." (U)

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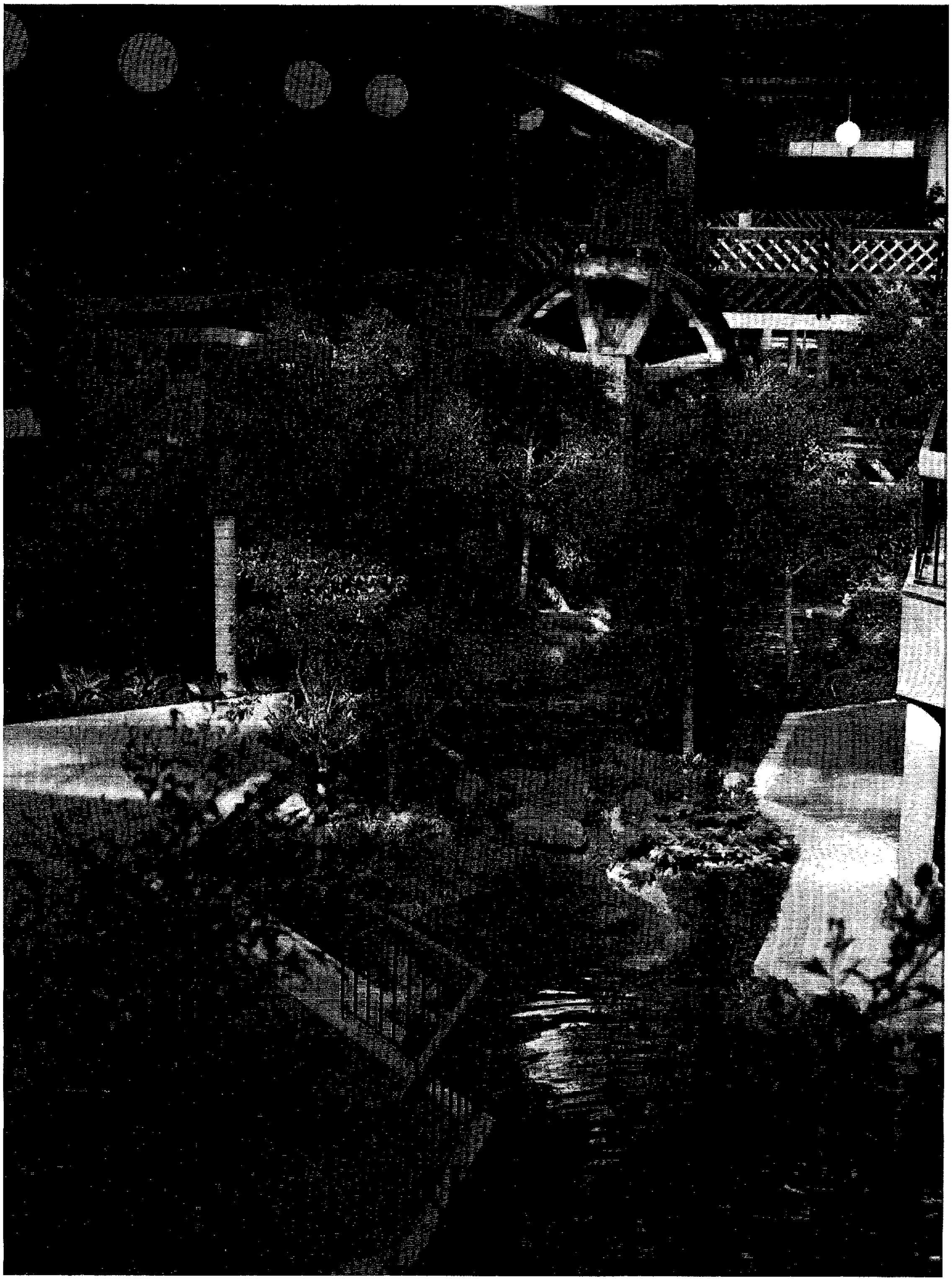

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FIGURE 12 SHOPPING MALL TARGET USED IN SUBMERSIBLE EXPERIMENT NUMBER 2 (U)

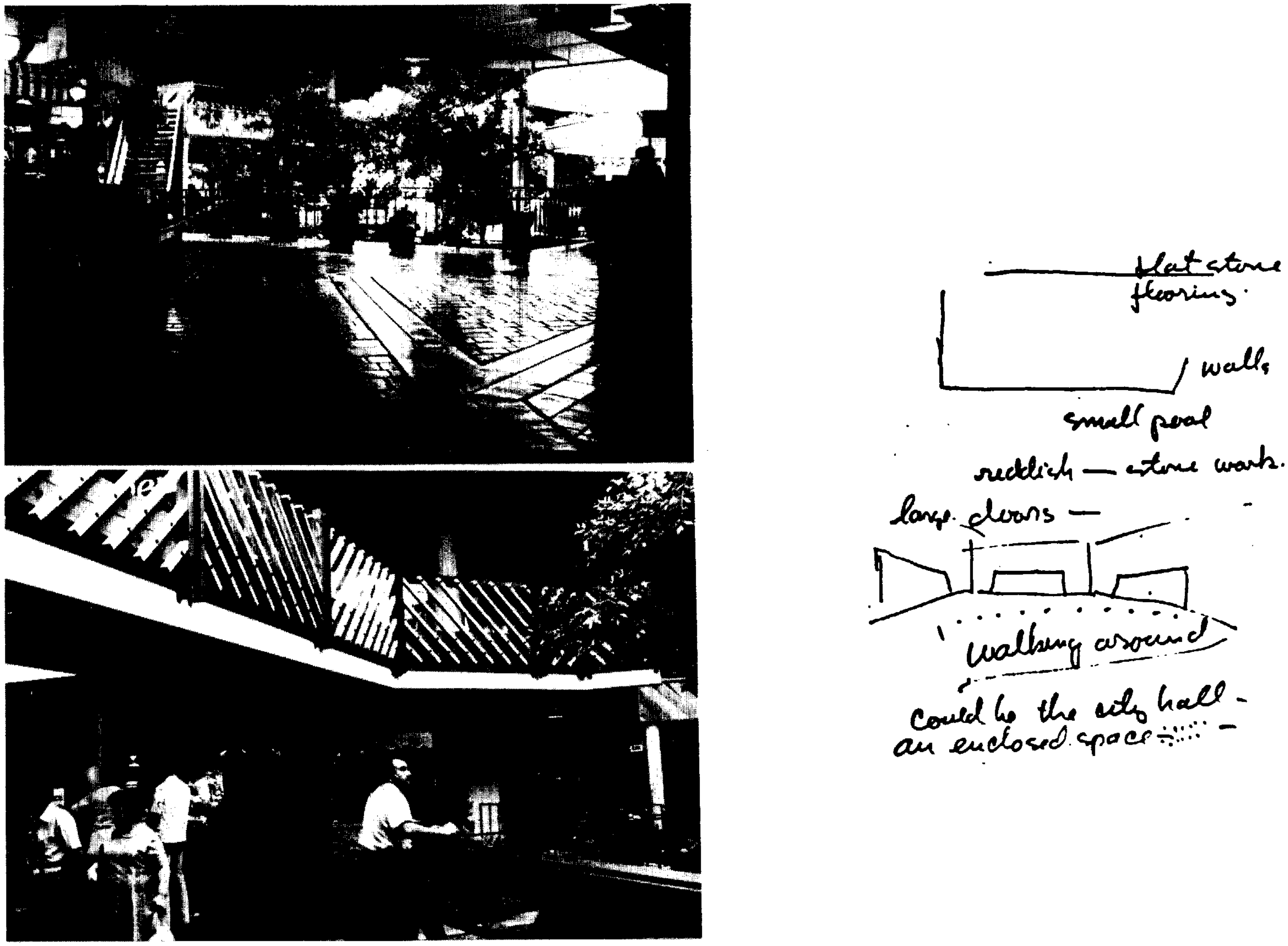

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FIGURE 13 SUBMERSIBLE EXPERIMENT NUMBER 2: 78 m DEEP ON THE BOTTOM. Target was shopping mall in Mountain View, California. Subject's drawing correctly identifies: "Flat stone flooring, walls, small pool, reddish stone walk, large doors, walking around, an enclosed space." (U) walk, and people walking around in an enclosed space. When shown the target list, the subject chose the correct target location and was thus able to "receive" the associated message.

Therefore, in the two trials that were actually carried out from the submersible, the subject in each case selected the correct one out of six messages.

B. Examination of the ELF Hypothesis

One of our purposes in experimenting with remote viewing from a submersible was to test the extremely-low-frequency (ELF) electromagnetic hypothesis put forward by I. M. Kogan of the Soviet Union, who suggests that information transfer under conditions of sensory shielding is mediated by ELF waves with wavelengths in the 300-to-1000-km region.[20-23]

To determine the significance of the success of the communications experiment with regard to the ELF hypothesis, we must examine the shielding effect of 170 m of sea water. The appropriate calculations have been carried out by the authors for another project; we quote the salient features here.

Three modes of propagation have to be considered. They are the TE, TM, and quasi-TEM modes of propagation. (The latter is generally assumed in Project Sanguine/Seafarer calculations, where one considers coupling into the spherical resonant cavity comprised of the earth's surface as the inner radius, and the ionosphere as the outer radius.[24]) Table 6 shows the minimum attenuation results for the three cases, assuming a depth of 170 m and a frequency of 10 Hz (approximate brainwave frequency). We see that in all cases there is greater than 20 dB (factor of 100) attenuation of a 10-Hz ELF signal.

C. Preliminary Conclusions

Preliminary conclusions of the submersible experiment are as follows:

Table 6

SUBMARINE EXPERIMENT
(ELF Hypothesis)

Depth: 170 m

Maximum-Transmission TE Wave (Normal Incidence, 10 Hz)

$R_{\text{surface loss}}$	44.8 dB
R_{attn}	18.6 dB
Total	63.4 dB

Maximum-Transmission TM Wave (Grazing Incidence, 10 Hz)

$R_{\text{surface loss}}$	3.4 dB
R_{attn}	18.6 dB
Total	22.0 dB

Maximum-Transmission Quasi-TEM Wave (Grazing Incidence, 10 Hz)

$R_{\text{surface loss}}$	50.3 dB
R_{attn}	18.6 dB
Total	68.9 dB

- Remote viewing appears to be a successful approach for achieving a land/submersible communication link.
- Under the least-loss case (near-grazing TM wave), the attenuation for an ELF signal at 10 Hz is 18.6 dB at 170 m, to which must be added the air/surface reflection loss. (The air/surface interface adds another 3.4 dB.) The results are therefore suggestive that the postulated ELF electromagnetic radiation mechanism is not viable as a mechanism for remote viewing. However, a definitive test requires a series

of experiments carried out at, say, 1000 m, where 10-Hz attenuation reaches 110 dB.

- Although the subjects indicated that they had experienced some degree of stress due to cramped conditions and seasickness, these environmental factors did not appear to affect the quality of performance deleteriously.

V REMOTE VIEWING OF OBJECTS, PICTURES, AND SYMBOLS (U)

(U) For simple communication experiments, training procedures, and so forth, it would be desirable to dispense with the relatively cumbersome procedure of remote viewing of natural sites and substitute the remote viewing of small objects, pictures, symbols, and the like. In this section we discuss experiments undertaken to determine the feasibility of such a substitution.

A. Experiments with Objects in Metal Containers (U)

(U) An experiment was carried out in which a subject was asked to render descriptions of objects hidden in small light-tight metal containers (35-mm film cans) located 1/8 mile distant from the subject's location. Further, the location of the object was known to the subject only as being on the person of an investigator outbound to an unknown site.

(S) The purpose of the experiment was to test (1) whether such a process constitutes a useful communication channel as claimed by the Soviets,[22] (2) whether a target needs to be illuminated in order to be detected by psychoenergetic processes (e.g., can one look inside a darkened safe?), and (3) whether resolution on the order of millimeters can be obtained.

(U) Ten trials were carried out. Each target was chosen by a random-number process from the target pool that was prepared in advance by an independent investigator. All investigators involved in carrying out the experiment were kept blind both as to particular targets and as to the contents of the target pool as a whole.

(U) In detail, an investigator not otherwise associated with this series (Investigator A) was asked to select ten objects and to seal each in a separate film can. The film cans were then turned over to a second

(U)

investigator (Investigator B), who was not told the contents. Investigator B then numbered the can tops 1 to 10 without opening the cans, taking care to handle them in such a way as to avoid gaining any information as to their contents. Investigator B then placed the box of cans in a secure safe. During the experiment the target cans were used without replacement until the ten possibilities were exhausted.

(U) At the beginning of each experiment, the subject was closeted with Investigator C in an isolated windowless room of the Radio Physics Laboratory in the SRI complex. Investigator B then generated a random number by the use of the random-number function on a Texas Instruments Model SR-51 hand calculator, obtained the associated can from the target pool in the safe,* and took it to a convenient location in a park near SRI. The outbound investigator (Investigator B) remained at the remote location for a ten-minute target period, beginning at a previously agreed-upon time, with the film can still unopened.

(U) During the target period the subject was asked to locate the outbound investigator and to describe the contents of the film can in his possession. Since the investigator with the subject (Investigator C) was ignorant of both the particular target and the contents of the target pool, he was free to question the subject about his perceptions without fear of cueing. The entire interaction in the laboratory was tape recorded, and the subject was encouraged to make drawings to accompany his verbal description of the film-can contents.

(U) Following the target period, outbound Investigator B returned to the laboratory, at which time all concerned (subject and Investigators B and C) learned the contents of the target film can by opening it. This was the first time in the entire course of the experiment that an association could be made between a numbered can top and a given target object.

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*(U) Because targets were used without replacement, when a previously used number came up, the random-number generator was reactivated until an unused number was obtained.

(U) To facilitate analysis, it was decided in advance that the experimental series of ten trials would be broken down into two subgroups of five trials each. Thus, in the blind rank-order procedure used (described below), a judge was asked to compare each target against five transcripts--one generated during the target period of interest and four generated during the other target periods of the subgroup. This procedure of breaking up trials into subgroups is a standard one designed to reduce the difficulty of comparing each target against a long series of all transcripts.

(U) In preparation for the judging of each subgroup, the subject's tapes were transcribed. The resulting transcripts were then edited by Investigator B only to the extent of deleting references to previous days' targets. The transcripts were then labeled A, B, C, D, E in a random order by use of the SR-51 random number generator. Each set of five transcripts (with associated drawings) was then turned over to an independent judge with the following instructions:

> "The five film cans with randomly numbered tops which contain objects constituted targets in five successive 'remote viewing' experiments. The subject's five response packets containing tape transcripts and associated drawings, one packet for each experiment, are to be matched to the film can contents. The response packets are unnumbered and presented in random order, so the matching is of the blind type; that is, no indication is being given as to which packet was generated in response to which target.
>
> In carrying out the matching process, the judge must realize that the subject is instructed simply to give descriptive impressions as to the characteristics of a target, as opposed to trying to interpret or identify or name the target. This is based on the known fact that in psychoenergetic functioning, as in other subliminal perception processes, first impressions as to form, color, and texture tend to be correct, but further efforts to analyze and interpret tend to lead to incorrect 'analytical overlay.' As an aid in judging with regard to this particular concept, we ask that as part of the judging exercise the judge should, before reading any subject transcript, examine all the targets, and write down for his own use a list of target descriptors (rather than names) for each item.

(U)

The details of the judging procedure, which involve filling in the accompanying matrix (see attached form),* are as follows. Select the lowest numbered can and examine its contents. Then read through the packets with the goal of determining best to worst description of this particular target. When the rank ordering is complete for this target, enter the rank order numbers, 1, 2, 3, 4, 5, best to worst match, beside the appropriate transcript letter in the first column. Then examine the contents of the next lowest numbered can, again ranking the packets best to worst match, and likewise enter the rank order numbers, 1-5, best to worst match, beside the appropriate transcript letter in the second column, and so on. The rank ordering for each target is to be done independently of the previous rank orderings, so that, for example, a given packet may be chosen first place match for more than one target if that provides the best ordering of descriptions. When the task is complete, the entire matrix should be filled in, at which time the packets are to be returned."

(U) As an example of the quality of description obtained, the results generated in the first subgroup of five are shown in Figure 1 in the Executive Summary (Section II of this report). The captions contain quotes from the subject's first paragraph of each description. For a spool and a pin we have: "It's definitely something thin and long...with like a nail head at the end...silver colored;" for a curled up leaf: "a nautilus shape with a tail;" for a leather belt keyring: "The strongest image I get is like a belt;" for a can of sand: "like a miniature tower...scalloped bottom...light beige;" for a grey and white quill: "like a penguin...grey and black and white...it's organic and has been alive...pointed or slightly rounded off at the top...open or pointed at the bottom."

(U) The judge's blind rank-order assessment for the entire ten-trial series is shown in Table 7(b). In the blind rank ordering of each target against five transcripts consisting of the appropriate transcript

*(U) The judge was given a blank matrix to be filled in. For the form of the matrix, see Table 7(a), which is an example of a filled-in matrix. The numbers correspond to the judge's rank-ordering assessments; the circles indicate the actual transcript/target pair.

Table 7

(U) DISTRIBUTION OF RANKINGS ASSIGNED TO SUBJECT RESPONSE PACKETS ASSOCIATED WITH EACH TARGET (U)

(a) Example of Judging Matrix (First Five-Trial Subgroup)

Transcript Letter	Can Number				
	3	4	7	8	9
A	1	5	4	4	5
B	5	4	3	3	1
C	3	3	1	1	2
D	4	1	5	5	4
E	2	2	2	2	3

(b) Analysis

Experiment	Can Number	Target	Rank of Associated Packet
1	4	Spool and pin	1
2	7	Leaf	1
3	3	Keyring	1
4	8	Sand	2
5	9	Quill	1
6	1	Stamps	1
7	2	Plastic pig	5
8	10	Whistle	4
9	6	Metal spring	2
10	5	Doll	1
Total sum of ranks (10 trials/5 rankings each)			19
Probability of result by chance[25]			$p = 0.009$

(U)

and four others, six of the ten transcripts were correctly matched, and two were matched in second place, a result significant at $p = 0.009$ (i.e., the probability of obtaining such a ranking by chance is less than 1 in a hundred).*

(U) It thus appears that small objects can be discriminated by psychoenergetic processes, and that the channel functions down to at least the order of one millimeter spatial resolution. Finally, successful use of the light-tight cans indicates that the light level required to illuminate the target can be vanishingly small.†

B. Abstract Targeting of Building Interiors (U)

(U) For the past several years we have been conducting remote-viewing experiments in which a subject in the laboratory is able to describe accurately the interior of a remote building given only geographical coordinates or a known outbound investigator on whom to target. In our experience, the outbound investigator need not be inside the building for the subject to provide an accurate description of the inside. It is sufficient for him to be in the general neighborhood of the building in question.

(U) We had not, however, previously carried out an experiment to determine whether an experienced subject could describe the inside of a building, given only an envelope containing a photograph of the target

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*(U) The appropriate analysis for preferential-ranking data is given in Ref. 25. The analysis requires that the ranking for each target be carried out independently--that is, with replacement--and the judge was so instructed. Evidence that this requirement was adhered to, to a close approximation, is provided by examination of Table 7(a), where the correct matching of four targets out of five did not yield an automatic match for the fifth, and Transcript C was twice selected as a first-place match (Targets 7 and 8).

†(U) The film cans were tested for light-tightness by exposing the cans containing 400 ASA Tri-X film to 30 flashes of a 1200 watt-second strobe light at 11 inches; photodensitometer traces showed no light explosure as compared with unexposed control film.

(U)

building. Therefore, we designed an experiment that involved handing the subject photographs of the outsides of buildings in the San Francisco Bay Area. In order to assure the absence of analytical guessing, the photos remained sealed inside opaque photographic envelopes throughout the experiment. The envelope plus its contents thus constituted an abstract targeting procedure. (See discussion in fourth paragraph of Section III-A.)

(U) The targets, all stand-alone buildings in the Palo Alto area, were as follows: an indoor swimming pool, movie theater, public library, bowling alley, fire station, grocery store, auto showroom, airport hangar, research building, and Chinese restaurant. In each case a photo was taken in a manner to best conceal the true nature of the building. This was done to discriminate against simple remote viewing of an envelope's contents in favor of the contents acting as a means to target on the site in accordance with the goal of the experiment.

(U) Ten trials were carried out, two per day over a period of five days. Each target was chosen by random-number generator access to the target pool, and the investigator with the subject was kept blind to the target. The randomly selected target envelope was handed to the subject for his assessment as to the structure, purpose, and activity associated with the site represented by the envelope's contents. The session was tape recorded and the subject was encouraged to generate sketches of the site to accompany his narrative.

(U) After completion of each trial, the subject was allowed to open the envelope and look at the picture. At this point a second phase of the experiment was initiated in which the subject was asked to render a second interpretation of the site on the basis of the photograph. Finally, the subject was given feedback as to the exact nature of the building in question.

(U) In the evaluation of this experiment it was clear that none of the subject's descriptions or drawings had more than a superficial resemblance to the target building under consideration. Neither the

(U)
unseen nor the seen photograph allowed the subject to make significant comments or drawings with regard to the intended target. The failure of these particular experiments contrasts sharply with the high degree of success achieved by the same subject during several years of work in our laboratory, and also with other successful experiments carried out during the same experimental period.

(U) There are several possible factors that could contribute to the subject's inability to describe the remote buildings in these experiments. First, it must be recognized that it may be impossible to do the task required. We tend to discount this idea, since another gifted subject has apparently been able to do this task under similar conditions.[3] A more likely explanation, in our opinion, is that the subject was overworked in this experimental series: A total of 30 trials of various types were carried out in a five-day period. This far exceeds the subject's previous work pace, and the subject complained of great fatigue at the end of many of the days. Further efforts along this line should be pursued before a final determination is made as to the feasibility of this procedure.

C. Experiments with Analytical Targets (U)

(S) In the course of this program we carried out several series of communications experiments involving the attempted transmission, from one laboratory to another, of analytical targets (numbers, letters, words). These series were initiated in an effort to assess reports of Soviet activities in this area. One of the Soviet experiments involved the transmission of numbers (decimal digits 0 through 9) with a claimed yield of 105 out of 135 digits. The a priori probability of such a result occurring by chance is $p \sim 10^{-77}$, an extremely significant result if true.[26]

1. Alphanumeric Targets (U)

(U) In this series an investigator in one laboratory cycled through a set of targets by means of a random protocol, while a percipient,

(U)

isolated in another laboratory, registered his responses. In some experiments the percipient knew the elements of the target pool (e.g., digits 0 through 9), while in others the target pool was essentially unknown (e.g., dictionary words). Target content for the various series was as follows: ten decimal digits--0 through 9; five written color words--yellow, red, blue, green, black; three alphanumerics--A, 1, 0; three specific words--cat, house, rhinoceros; and an open-ended list of random dictionary words. Computer analysis of the total of 1,100 trials completed indicated that the results in each case do not deviate significantly from chance expectation.

(C) In addition to the above laboratory experiments carried out within SRI, a long-distance (Ohio-California) communication experiment utilizing binary digits (0, 1) as targets was undertaken. Each working day for a two-week period the contract monitor placed on display at his location a three-digit binary number, of which there are eight possibilities (000, 001, ... 111). At an agreed-upon time a subject located at the Radio Physics Laboratory at SRI, Menlo Park, California, attempted to perceive the three-digit number. The results of this experiment also did not deviate significantly from chance expectation.

(U) We thus found in our experimentation an inability on the part of subjects to perceive alphanumeric material. This result is consonant with our general findings--namely, in paranormal perception the patterns of correct versus incorrect responses indicate specialization characteristic of the nonanalytic part of the brain's cognitive apparatus. This part of the brain is thought to deal mainly with spatial and holistic processing, in contrast to specialization in verbal or analytical functioning.[27-29]

2. Color/Shape Targets (Parallels Between Remote Perception and Ordinary Perception) (U)

(U) In an effort to devise an approach that might begin to train analytic perception ability, one of the program subjects developed a gradient series of perception tasks that mimic the known

(U)

development of ordinary perception. The decision to follow such a protocol was derived from data indicating that the laws of paranormal perception are congruent with, rather than skew to, the laws that govern ordinary perception, especially under conditions of subliminal presentation.[30]

(U) The approach was based on a specific perceptual orientation process known to hold in ordinary perception of color. The perceptual process of interest was the well-documented scale of increasing sensitivity to color tones. Cross-cultural studies of 98 separate linguistic stocks indicate that, from culture to culture, perception of color tones in the environment begins with discrimination first of black and white (dull/bright); then red is added as a color, then yellow or green followed by the other, then blue, brown, and finally purple, pink, orange, and grey. Although these latter are undistinguished at first, discrimination between them eventually occurs.[31]

(U) On the hypothesis that perhaps a similar gradient is followed by an individual in the development of paranormal perception, a lengthy pilot series of several hundred trials was carried out with an experienced subject to determine, in a simple lab-to-lab remote target card sequence, whether any correlation existed between color impressions, brightness/dullness impressions, and accuracy of symbol recognition. (The symbols used were O, T, and Δ of various colors.) A post hoc analysis of the data indicated that in those cases where the subject was correct in his impression as to whether the target was bright (white, yellow) or dull (blue, black), he was able to recognize the symbol to a statistically significant degree.*

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*(S) This lengthy series on detailed alphanumeric material preceded the subject's viewing of the [redacted] which yielded one of the better, more detailed remote viewing results on the program. Therefore, we might conjecture along with the subject that the remote-viewing practice that occurred in this series may have helped to strengthen and sharpen the subject's skills. SG1A

(U) Based on the above observation, a second experienced subject was tested over a three-day period. This subject was instructed to attempt to differentiate remote target card symbols (O, T, Δ of various colors) first on the basis of the dichotomy dull/bright, and then with regard to shape, and only finally with regard to color. (Specifically, the subject was encouraged to reject premature mental discrimination processes based on color perception.) After noting an apparent learning curve in the data, a final test run was carried out before subject departure on the third day. For this run only, the subject was instructed to reject color perception altogether, and to simply indicate bright/dull followed by symbol shape. This test resulted in correct recognition of 10 out of 12 shapes consisting of the three symbols (O, T, Δ) of various colors randomly intermixed. The probability of such a result occurring by chance in less than one is 1800 (i.e., $p < 5.5 \times 10^{-4}$). On the basis of these preliminary results, further experimentation with this protocol will be carried out to determine whether the approach can lead to stable paranormal perception of alphanumeric targets, a task that has so far eluded parapsychology workers in this country.

VI ROLE OF FEEDBACK IN REMOTE VIEWING EXPERIMENTS

A. Background Discussion

It is standard practice in our laboratory, and in others, to provide subjects with feedback as to their results in paranormal perception experiments. This procedure is based on two factors: (1) the recognition in learning theory that feedback is important in learning any skill, and (2) the observation that subjects indeed do better when feedback is supplied.

For most ordinary (non-paranormal) tasks, the role that feedback plays appears relatively straightforward. In paranormal experimentation, however, precognition of future events sometimes seems to occur. This raises the possibility that in paranormal perception experiments some part of the information obtained is a result of precognitive access to future feedback rather than direct remote viewing. If so, feedback to the subject would play a more substantive role in paranormal experimentation than is usually the case. As a corollary, the withholding of feedback in paranormal experimentation could be especially deleterious. Feinberg of Columdia has even suggested that perhaps all of the information in remote viewing comes via precognition of feedback.[32]

In any case, there is strong evidence that feedback is an essential element for successful remote viewing, whether the reasons be simply psychological or more substantive, perhaps even physical. Therefore two experiments were undertaken to determine to what degree remote viewing could be elicited under conditions where the subject never receives feedback as to the target.

B. Experimentation

In these experiments, each of two subjects independently made six remote-viewing trials. Both subjects were experienced in the remote-viewing task and have produced reliable and successful results in the past.

In experiments with one subject we carried out six trials of standard remote viewing of local targets in the San Francisco Bay area with no feedback as to the target location visited by the outbound investigators. Instead, the subject was taken each day to a different one of a set of "feedback" locations, none of which were in the target pool for remote viewing. The subject was informed as to the nature of the experiment and knew that his task was to describe the place visited by the investigators, rather than the place he was to be shown after the experiment. The experiment nonetheless provided an opportunity to observe whether he would in fact describe the "feedback" site in place of the target site.

The outcome of the experiment was determined by the blind matching of an independent judge. The judge was given a listing of the target sites in random order and a similar listing of the feedback sites, also in random order without being told which was which. He was also given the six transcripts produced by the subject. The judge then had two tasks. He had to rank-order the transcripts, as he thought they applied to each of the sites. This was done both for the target sites and the "feedback" sites.

In blind matching of the subject's response to both the target locations and the feedback locations, no deviation from chance expectation was found. In each case the judge correctly matched one target-transcript pair, which is the result expected by chance.

If it had turned out that the matching of the transcripts to the target sites had been significant, it would have been evidence for direct perception of the site at the time of the outbound investigator's visit to that site. If, on the other hand, there had been significance in the matching of the transcripts to the feedback sites, we would have concluded that the subject tends to describe primarily the location about which he is eventually given feedback. The result, however, was that his effort to target on the correct site appeared to suffer in the absence of relevant feedback, but he was not diverted into describing an irrelevant false feedback target.

In experiments with a second subject, we first carried out three standard experiments in the remote viewing of local San Francisco Bay Area sites with feedback. These were successful trials in which the subject described a secure map room, an outdoor swimming pool, and a church in sufficient detail for the transmission of a five-bit error-corrected message. (See Appendix D for a description of the application of the remote viewing of natural targets as a vehicle for message transmission with built-in error correction.)

We then carried out three trials without feedback, in which the subject gave descriptions that in no way matched the targets. This was then followed by a final trial with feedback to establish whether the functioning would return. In this case the outbound investigators selected by the random-number generator protocol, the control tower at the Palo Alto airport, a location never before seen by this subject. The target was immediately described on tape as a "tower like building... rising out of organic petal shaped bushes. It is quite square with an enlarged tip on the top." A photograph of the tower, together with his drawing of it are shown in Figure 14. It would thus appear that reinstituting the feedback condition rehabilitated the functioning.

C. Conclusions

1. General

Taken together as a series, this experiment consisted of 13 individual remote-viewing experiments with experienced subjects. Of the 13 trials they made, none of those without feedback were successful, and all those with feedback were. From this we must conclude that, at least for the two subjects examined, who are ordinarily quite reliable, feedback to the subject is an important aspect of the remote-viewing protocol. We cannot, of course, conclude that feedback is essential for substantive (e.g., physical) reasons, since the above series did not separate out psychological factors. In fact, both subjects expressed the feeling that the no-feedback condition was psychologically very frustrating to them.

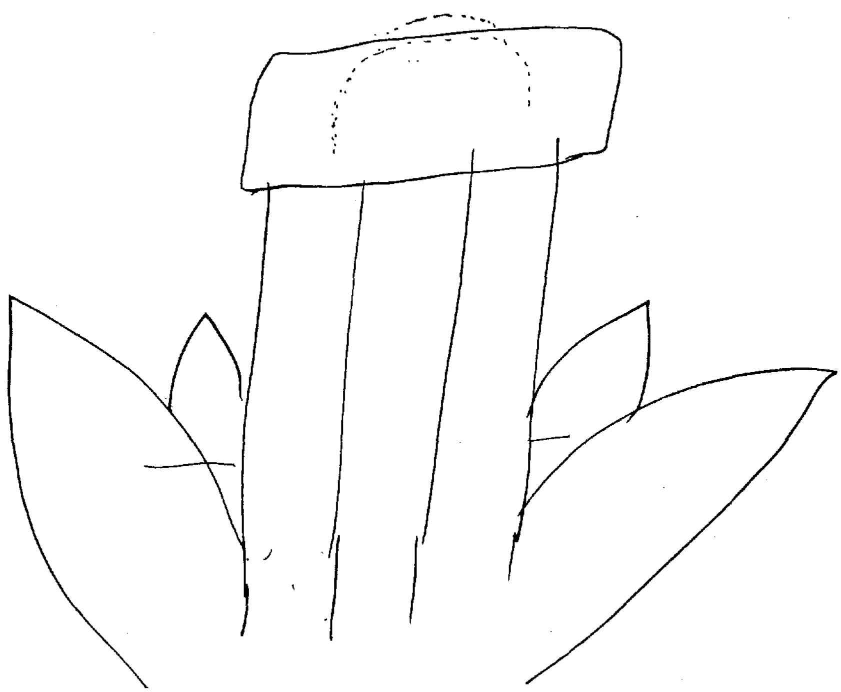

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FIGURE 14 PALO ALTO AIRPORT TOWER TARGET. Described by subject as a square stone tower rising out of foliage at its base. (U)

The next appropriate series of experiments with these normally successful subjects would be to intermix, on a random schedule, feedback and no-feedback trials, to eliminate any effect of psychological predisposition that a subject might have with regard to a given trial being carried out without feedback. At this point, however, we can conclude that feedback is important, whatever the cause.

2. Recent Results

In the follow-on to the program reported here, we addressed the issue as to whether it was possible in principle to obtain information in the absence of feedback. Furthermore, the experiment was designed to factor out the psychological component: the subject did not know on a given trial whether feedback would be provided.

The goal of this experiment was to determine if paranormal perceptual abilities could be elicited under conditions in which, for half the trials, on a random basis, the subject would never receive feedback as to his trial-by-trial performance.

The task of this experiment was for the subjects to determine which one of ten digits, 0-9, had been chosen by an electronic random number generator and stored in a computer. The entire experiment was software programmed on a standard commercial microcomputer with typewriter/video I.O. (Polymorphic Systems Model 8813 microcomputer). The subject indicated his choice by striking the appropriate key on the computer terminal. In a run of 20 trials, the subject received immediate feedback for only ten of his choices, on a randomly determined schedule. In the feedback cases, the correct number was printed on the video terminal as soon as the subject made his selection. In the cases without feedback, the computer printed the words NO FEEDBACK, and went on to the next trial. Hits and misses were accumulated internally and only the totals were displayed at the end of each run of 20 trials. Results for all subjects were accumulated in a separate, protected file.

Ten subjects were studied: seven controls (SRI volunteers) and three subjects *a priori* labeled "experienced." The seven SRI volunteers did not produce scores differing from chance expectation in either experimental condition (FEEDBACK or NO FEEDBACK). All three of the experienced subjects, on the other hand, did produce individually significant departures from chance scoring. Of these, one subject scored significantly in the NO FEEDBACK case ($p < 0.01$, or odds of less than 1 in a hundred of such a result being obtained by chance). Thus it would appear that although feedback may play an extremely important psychological, and perhaps more substantive (e.g., physical) role, it is not absolutely essential.

VII REMOTE PERCEPTION OF AUDIO SIGNALS

In assessing the possibility of remote sensing by modalities other than visual, we conducted an experiment in which the primary remote-sensing task was on audio one.

We feel that the success of our earlier remote-viewing experiments has resulted from the following considerations:

- The targets have been "natural scenes" rather than contrived visual stimuli.
- The subjects were encouraged to describe nonanalytic features of the targets rather than to analyze the scene.
- The experiments were conducted in a relaxed atmosphere with approximately one trial per day.
- Whenever possible, immediate feedback was provided to the subject.

These considerations served as a basis for the design of the remote audio experiment.

Ten musical pieces were chosen for the target pool. These targets were selected on the basis of a nearly balanced mixture of classical, nonclassical, vocal and nonvocal music. The pool of ten pieces were chosen to keep the set as orthogonal as possible with regard to feeling, rhythm, instruments, and overall gestalt; they are listed in Table 8.

In each trial a music tape was played for ten minutes in a building 1/8 mile distant from the subject to provide sufficient isolation to ensure no audio leakage path. As with the cans experiment (Section V), the ten trials were divided into two groups of five trials each. The procedure for random-number generator access to the pool of target tapes was the same as in the cans experiment, and the investigator monitoring the subject was, as usual, kept blind to the contents of the target pool.

Table 8

MUSIC TARGET POOL WITH PARTIAL ATTRIBUTE LIST

Tape	Recording	Selection	Artist/Composer	Mood	Description
1	Olatunji! Drums of Passion	Oya (Primitive Fire)	Olatunji	Rousing	African drums
2	Sitar of India	Dhun Jhinjhoti	Kamar	Melodic	Sitar + tabla
3	Rachmaninoff: Vespers	Glory to God in the Highest	Rachmaninoff	Meditative	Russian church music, a capella
4	Bach Organ Favorites	Fugue in D Minor	J. S. Bach	Powerful	Strong organ music
5	Mozart--The Complete Works for Piano	Sonata in F Major, k. 497	W. Mozart	Relaxing	Piano music
6	Come from the Shadows	Love Song to a Stranger	Joan Baez	Romantic	Clear vocal love song
7	The Concert for Bangla Desh	Wah-Wah	George Harrison	Loud	Acid rock; crowd noise
8	An Evening Wasted with Tom Lehrer	Elements	Tom Lehrer	Humor	Nonsense patter song
9	Vivaldi: The Complete Flute Concertos	Concerto in C Major for Piccolo	Vivaldi	Lilting	Baroque flute music
10	Also Sprach Zarathustra	Same	R. Strauss	Ponderous	Heavy orchestra selection

As in the remote-viewing experiments, the subject was encouraged to describe his impression of the overall mood of the remote audio "scene," and specifically discouraged from guessing the name of the musical number. The subject's comments were recorded for later transcription.

Since the target tapes were chosen to be extremely different from each other, and since the monitor was to act as a judge, no feedback was given at the end of each trial to either subject or monitor. The judging technique employed was the rank-ordering procedure described for the canister experiments. The results of the rank-ordering analysis are shown in Tables 9 and 10.

Of the two series of five trials, the second was the better. Three of the five transcripts were first-place matched without difficulty, as the correspondences between the transcripts and associated musical selections were excellent. (In the first series, there were no first-place matches, although three of the five were second-place matched.) Thus, there is possibly some indication of learning in this new task.

Statistically, the odds of obtaining the observed matching results by chance are 1 in 2.3 and 1 in 12.5 for the first and second series, respectively. Therefore, considering that some of the individual correspondences were quite detailed and accurate, and considering that one of our other subjects (not present for this experiment) had performed exceptionally well in similar tests conducted in a different research laboratory, we would not conclude that this is a definitive null result. However, more experimentation is necessary to define the characteristics of this particular form of channel, and better statistical results would be required to place the results on a solid footing with regard to a positive interpretation.

Table 9

DISTRIBUTION OF RANKINGS ASSIGNED TO SUBJECT RESPONSE PACKETS ASSOCIATED WITH EACH TARGET FOR SERIES 1

Experiment	Tape	Musical Target	Rank of Associated Transcript
1	7	Concert for Bangla Desh	4
2	1	Drums of Passion	2
3	10	Also Sprach Zarathustra	2
4	2	Sitar of India	2
5	4	Bach Fugue in D Minor	4
		Total Sum of Ranks	14
		Odds of Such a Result by Chance	1 in 2.3

Table 10

DISTRIBUTION OF RANKINGS ASSIGNED TO SUBJECT RESPONSE PACKETS ASSOCIATED WITH EACH TARGET FOR SERIES 2

Experiment	Tape	Musical Target	Rank of Associated Transcript
6	6	Baez Love Song to a Stranger	1
7	9	Concerto for Piccolo	3
8	5	Mozart Sonata in F Major	1
9	8	The Elements	1
10	3	Vespers	4
		Total Sum of Ranks	10
		Odds of Such a Result by Chance	1 in 12.5

VIII SUBJECT-INDUCED EQUIPMENT PERTURBATION EFFECTS (U)

(S) The study of human/machine interactions as a psychoenergetic process has posed great difficulties for serious investigators. Among these difficulties are the combined facts that the reported effects tend to be small, and the local environment has rarely been monitored for causes alternative to the proposed psychoenergetic effects. In addition, one finds that the strongest effects are reported as occurring with the most controversial and/or suspect subjects. Out of this collection of questionable experimentation (and often poor reporting), emerge, however, a few provocative experimental results suggesting that further careful examination may be worthwhile and possibly rewarding. Such studies would provide valuable data for assessing whether the area of subject-induced equipment failures poses a potential threat.

A. Strain-Gauge Experiments (U)

(U) As a result of technical contacts with Prof. John Hasted, Birkbeck College, University of London, we have developed an interest in attempting to confirm his claim[33,34] that he has observed inelastic and elastic deformations of metal bars by some kind of remote human interaction. During these experiments the subjects are reported to cause effects without any physical contact with the metal.

(U) In an effort to replicate Hasted's results, we have constructed an electrically shielded enclosure having more than 135 dB RF attenuation from 10 kHz to 10 MHz and plexiglass sides (to shield against air currents). Within this enclosure is an experimental system of resistive strain gauges attached to a thin metal bar. These are wired as a temperature-compensating bridge and connected to battery-operated amplifiers and recording instruments. At present we can detect changes in the length of the bar on the order of 500 angstroms and applied transverse forces of approximately 100 mg. To date, we have been

(U)

successful in isolating and correcting several sources of artifact, and have obtained hours of artifact-free baseline operation. All of the data will be magnetically recorded for later computer analysis, and a simple strip-chart record will provide immediate feedback to the subject of any changes in the bar. We are encouraged with the progress of artifact isolation, and we will begin to task subjects to attempt to perturb the isolated metal bar during the follow-on program.

(U) Should experimentation reveal genuine subject-induced perturbations, we will determine whether such effects can be used as a message-transmission device (remote telegraph).

B. Random-Event Generator Experiments (U)

(U) Another class of experiments that have been extensively reported are those that involve alleged human/machine interaction with electronic random-event generators. In these experiments, digital electronic noise derived either from a thermal noise source or from the decay of a radioactive material is monitored while a subject is attempting to alter the statistical properties of the noise distribution. The usual protocol involves providing visual and audio feedback signals, proportional to various statistical parameters, to a subject who is asked in a biofeedback scenario to concentrate upon the feedback signals and to alter them in a prescribed way. To date, there have been 54 such experiments reported in the literature,[35] of which 35 report statistically significant effects, while none of these studies show similar departures from randomness during control runs.

(U) We have completed the design stage of a micro-processor-based (LSI-11) random-event generator, and are in the hardware construction and assembly phase. We are using three fundamentally different sources of random events to derive the digital electronic noise signal. The first of these is a diode designed by R. H. Haitz,[36] that is completely understood from both the quantum-mechanical and solid-state construction point of view. A second fundamentally different source of random events is to be derived from the decay of a single-transition beta emitter.

(U)
Lastly, the entire system can be checked against a pseudorandom shift register that constitutes a third source of random events. This latter has the property that a long string of bits appears random, yet once the shift register is reinitialized it produces the identical random sequence once again.

(U) The instrument is under control of a microprocessor that records data on magnetic tape for later analysis, and controls a printing I/O statistical calculator that provides immediate results for feedback. Once the instrument is complete, it will be exhaustively tested for possible artifacts resulting from environmental conditions.

(U) We propose to use this instrument in the follow-on program first to attempt to confirm the existence of the claimed phenomenon. If it is confirmed, we will investigate theoretical implications with regard to various modes of human/machine interaction. Assuming that an effect can be stabilized, this microprocessor-based system can easily be re-programmed to utilize error-correcting coding techniques to construct a "remote" telegraph communication system.

IX SUMMARY AND CONCLUSIONS (U)

(U) Experimental laboratory work continues to provide evidence for the existence of so-called psi processes, a class of interactions between consciousness and the physical world as yet unexplained. These include (1) the acquisition of information not presented to any obvious sense, and (2) the production of physical effects not mediated by any obvious mechanism.

(S) At SRI we have concentrated primarily on the former, investigating a particular human information-accessing capability that we call "remote viewing." This phenomenon pertains to the ability of certain individuals to access and describe, by means of mental processes, information blocked from ordinary perception by distance or shielding, and generally believed to be secure against such access. Our data base now consists of several hundred trials in the remote viewing of targets ranging from objects in nearby light-tight canisters to geographic sites at transcontinential distances, and viewed from locations that include shielded Faraday cages and a submerged submarine. [redacted]

SG1A

SG1 A

(S) Table 11 summarizes the key findings with regard to target acquisition, resolution, shielding, and distance effects; factors that appear to enhance or inhibit success in remote viewing; accuracy, reliability, and robustness; screening and training of subjects; and technological and theoretical considerations.

(U) Data from these observations indicate that the phenomenon is characterized by resolution on the order of at least millimeters, apparent ineffectiveness of ordinary electrical shielding, and relative insensitivity to distance up to and including transcontinental distances.

(U)

With experienced subjects the accuracy and reliability of the phenomenon can also be characterized roughly by a two-thirds factor. That is, approximately two-thirds of a given transcript about a given site is correct, roughly two-thirds of a series of transcripts can be blind-matched by a judge to the correct target out of a list, etc.

(S) Remote viewing, through the use of geographical coordinates as designators, has in many cases provided meaningful descriptions [redacted] SG1A

SG1A

Evaluation by appropriate intelligence community specialists indicates that a subject is able by this process to generate useful data corroborated by other intelligence data. As is generally true with human sources, the information is fragmentary and imperfect, and is therefore best utilized in conjunction with these other resources. Nonetheless, the data generated by this process appear to exceed any reasonable bounds of chance correlation or acquisition by ordinary means, and therefore constitute a potentially exploitable information source.

SECRET

Table 11

(S) REMOTE-VIEWING STATE OF THE ART--CONCLUSIONS (U)

Characteristic	Known	Unknown
Target acquisition	Subject can acquire target site on the basis of presence of cooperative person at site; targeting by geographical coordinates without person yields results comparable to those obtained in experiments in which a person known to the subject is used as a target. This observation offers evidence for goal-oriented as opposed to means-oriented interpretation of the "laws" that appear to govern psychoenergetic functioning.	What is necessary for target acquisition (names, maps, pictures, other coordinate systems); accuracy of target acquisition in geographical coordinate case--e.g., circular error of probability (CEP); how subject identifies target; whether person unknown to subject can be tracked on the basis of biographical information, pictures, etc.
Target attributes sensed	Descriptive aspects (shape, form, color, material) are described better than analytical concepts (function, name) although at times the latter come through excellently; written target material correct only occasionally; alphabet targets successful only statistically.	Whether analytical psi can be trained to levels similar to descriptive psi.
Time of flight	Information access often appears to be available in essentially "real" time.	Time of flight of psychoenergetic phenomena; mechanism of propagation.

SECRET

(S) Table 11 (Continued) (U)

Characteristic	Known	Unknown
Temporal resolution	Real-time activities at the target site are often perceived; experiments have included successful real-time remote viewing [redacted] (differentiation between successful firings and scrubs, timing to within ten seconds); ephemeral, rapid, or repetitive targets more difficult.	Extent to which a subject can improve temporal resolution and accuracy of the process; upper limit to bit rate and ability to track targets in motion.
Spatial resolution	On the order of one millimeter or less.	Extent to which subject can improve spatial resolution.
Distance effects	Accuracy and resolution not a sensitive function of subject-target distance over intercontinental distances.	Whether, or at what range, distance effects become important.
Shielding	Faraday cage or seawater electrical shielding not effective shield.	Whether magnetic shielding is effective.
Sensory modalities	In addition to visually observable detail, subjects sometimes report sounds, smells, electromagnetic fields, etc. that can be verified as existing at target locations.	The accuracy of nonvisual sensory modalities; other sensory modes available.

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(S) Table 11 (Continued) (U)

Characteristic	Known	Unknown
Factors that appear to inhibit success in remote viewing	*A priori* subject knowledge of target possibilities; absence of feedback; application of ability to trivial tasks (testing for the sake of testing); use of repetitive target sequence.	Effects of environmental physical factors; EM jamming.
Factors that appear to enhance success in remote viewing	Interest factor for subject; *a priori* necessity and relevancy for obtaining information (seriousness of purpose); presence of a facilitating monitor to ask questions and direct the subject's attention; practice with feedback.	Effects of environmental physical factors; EM generators for targeting.
Accuracy and reliability	Analysis of remote-viewing transcripts generated by experienced subjects indicates that for a given target site roughly two-thirds of the subject-generated material constitutes an accurate description of the site, while about one-third is ambiguous, general, or incorrect.	Achievement levels to be reasonably expected.

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(S) Table 11 (Continued) (U)

Characteristic	Known	Unknown
Use of redundancy to improve signal-to-noise ratio	Redundancy, whereby more than one individual attempts to collect data on a given target, improves reliability by reducing the effect of the biases of individual subjects.	Optimum number of subjects for efficient utilization of this approach.
Repeatability of phenomena	Continuing demonstrations in this program, and replications in other laboratories,[14-19] indicate that the capability known as "remote viewing" is a repeatable human perceptual ability.	
Distribution of psychoenergetic capacity in population; identification of good subjects	Abilities appear widespread, though latent; volunteers with no previous history of psychoenergetic functioning exhibit ability in screening experiments, indicating that reliance on the availability of special subjects may not be necessary.	Percentage of population with natural talent or trainable; optimum screening procedures; medical or psychological profile of good subjects.
Improvement potential	Subjects trained over a several-year period have shown improved performance, with regard to both accuracy and reliability.	Whether near-perfect results as sometimes obtained can become routine.

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(S) Table 11 (Continued) (U)

Characteristic	Known	Unknown
Technological considerations	Low-level perturbation of equipments observable during remote viewing (magnetometer, noise and nuclear-decay-driven random event generator).	Degree to which phenomena can be stabilized and mechanized, and to which energy can be stored; to what extent psychoenergetic processes can be amplified by technological means.
Theoretical considerations	Phenomena characteristics often appear to be at variance with present scientific models.	Precise mechanisms responsible for the phenomena; relationship of phenomena to electromagnetic, quantum, etc. bases of present scientific understanding; whether the data can be accounted for within the framework of physics as presently understood, or on the basis of conservative extrapolations that have been proposed to account for other (non-psi) data.

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SG1B

Appendix A

STANDARD REMOTE-VIEWING PROTOCOL (LOCAL TARGETS)

Appendix A

STANDARD REMOTE-VIEWING PROTOCOL (LOCAL TARGETS)

The basic outline of our standard remote-viewing protocol is as given in our tutorial paper, "A Perceptual Channel for Information Transfer over Kilometer Distances: Historical Perspective and Recent Research," H. Puthoff and R. Targ, Proc. IEEE, pp. 329-354, March 1976.[9] The elements of the protocol, each of which is addressed below, consist of (1) target pool selection; (2) subject orientation; (3) outbound investigator behavior; (4) inbound investigator behavior; (5) post-experiment feedback; (6) judging procedure.

1. Target Pool Selection

To carry out an experimental series of, say, n trials with a subject, a list of targets >> n should be prepared in advance by an investigator who will not interact with the subject after that. The targets should be chosen to be distinctive, but not necessarily distinct from each other; that is, rather than just a collection of nondescript street corners one should select bridges, towers, fountains, gardens, plazas, etc., so that a judge could in principle recognize targets on the basis of correct but sketchy descriptions. On the other hand, once having chosen a fountain-type target, there should be several fountain targets; for a bridge target, several bridge targets, etc., in order to avoid the possible subject strategy of "I had a bridge yesterday, so it can't be a bridge today." The subject should be told explicitly that there are similar as well as different types of targets.

When the target list is made, each target location should be written on a card and placed in an envelope, the envelopes randomized and numbered. These should then be stored in a secure safe or similar container.

With regard to whether a target is replaced in the pool after use, the preferable procedure, from a methodological standpoint, is to replace it. (A problem with actual replacement is that the subject, upon becoming aware of a mental image of a previous target, might be biased to reject it as memory. An acceptable alternative is to replace a used target by a new one of similar type--e.g., one fountain by another.)

2. Subject Orientation

Before the experiment, the subject should be shown some previous remote-viewing results with one goal in mind--to get across the idea that one should, as nearly as possible, report raw perception rather than analysis, since the former tends to be correct and the latter is almost always wrong.* A subject needs to understand that a rounded piece of blue metal is just that, and that he should not initially try to determine what it is. Remind the subject that imagination constitutes noise in the channel, and therefore the closer he can get to raw uninterpreted imagery, the better. To have success in the above, the best guideline we have found is to choose as subjects individuals who are self-confident, uninhibited, successful, and not afraid to be wrong. No psychological test we have investigated is as reliable as the above subjective assessment in choosing subjects.

3. Outbound Investigator Behavior

At the start of an experimental session, the inbound and outbound investigators and subject should rendevous for a relaxed informal discussion in the laboratory setting. (The outbound investigator or

*Figures 3 and 4 in the IEEE paper[9] are good examples. In Figure 4 the subject had absolutely no concept of a pedestrian overpass, but simply saw a pattern of receding squares; in Figure 3 correctly-dimensioned pools of water were misinterpreted as purification plant pools rather than recreational swimming pools.

investigators must not know the target at this time.) Together they agree on a time for the subject description to start (e.g., 30 minutes hence--the length of time required to reach the furthest target in the pool; this time is then an invariant for all experiments.) The outbound investigator then leaves the laboratory, uses a random-number generating procedure to obtain a number from 1 - n (number of targets in pool), obtains the so-numbered envelope from the target pool, and leaves the premises. (We use a Texas Instruments SR-51 hand calculator, which has a random-number function.) After driving away from the laboratory, he opens the envelope to determine the target, and then proceeds to that location. He should arrange to park and then come upon the target location at exactly the starting time so that his view of it is fresh at the beginning of the experiment. He then simply pays attention to the environment and does not let his mind wander (especially to another target). It does not appear to matter how many people comprise the outbound team, provided they do not (1) pay attention only to each other, or (2) scatter about. At the end of the agreed-upon target viewing time (usually 15 minutes) they return to the lab.

4. Inbound Investigator Behavior

During the period that the outbound investigators spend en route to the target, the inbound investigator and subject have a period to relax and discuss the protocols. (Inbound it is best not to have additional observers.) The goal of the inbound investigator during this period is to make it "safe" for the subject to experience remote viewing. For the initial orientation of a new subject, this typically includes a low-key pep talk as to how remote viewing appears to be a natural, not abnormal, function, that many people appear to have done it successfully, even their first time, and always including the reminder to eschew analysis and simply render raw impressions.

Since we think that remote viewing is a difficult task, like perceiving a subliminal stimulus, we think it takes the full attentive powers of the subject. Therefore, the environment, procedures, etc., should be as natural and comfortable as possible to minimize the attention on anything other than the job at hand. No hypnosis, strobe lights, or sensory-deprivation procedures are ever used, since in our view these (novel) environmental factors take away some of the subject's much-needed attention. We are in this sense proponents of a "naturalist school." If the subject feels more comfortable smoking, or drinking a cup of coffee, that is permitted. These should be arranged ahead of time, however, so that neither subject nor investigator leave the experimental room while waiting for the outbound investigator to reach his target.

The investigator should have arranged ahead of time to have pen and paper available for drawing, and a tape recorder. When the agreed-upon experiment time arrives, the inbound investigator simply asks the subject to "describe what impressions come to mind with regard to where the outbound experimenter is." Most subjects prefer to close their eyes, but they should simply do what comes naturally. The room lighting is preferably subdued to prevent after-image highlights, shadows on eyelids, etc. It is best that the inbound investigator not pressure the subject to say a lot; he should act as if there is all the time in the world. Otherwise, a subject may tend to embroider descriptions just to be saying something to please the investigator. If the subject tends toward being analytical ("I see Macy's") the investigator must gently lead the subject into description, not analysis. ("You don't have to tell me where it is, just describe what you see.") This is the most important and difficult task of the inbound investigator.

It is also useful for the inbound investigator to "surprise" the subject with new viewpoints. ("Go above the scene and look down--what do you see? If you look to the left, what do you see?") The subject's viewpoint appears to shift rapidly with a question like this, and the data come through before the subject's defenses activate to block it out. The shifting of viewpoint also obviates the problem of the subject spending the entire time giving meticulous detail on a trivial item, such as a flower, which, even if true, will be of no help to a judge. Once a subject feels he sees something, he tends to hang on to this perception rather than commit himself to a new viewpoint.

The subject must be encouraged to sketch what he sees, even over his objections that he is not an artist, can't sketch, etc. He may do so throughout, or wait until the last five minutes if intermittent drawing would distract his concentration. Since drawings tend to be more accurate than verbalizations, this is an extremely important factor for good results.

5. Post-Experiment Feedback

When the outbound investigator returns, the inbound and outbound investigators and subject should proceed directly to the target for feedback. This helps to develop the subject's sense of which parts of his mental imaging are correct, versus incorrect. It completes the experiment for him, so that when he does a following experiment, his mind is not still involved with wondering how he did on the previous one. Only a very experienced subject can function well time after time without feedback, so this must be done for each experiment to ensure success.

6. Judging Procedure

In a sense, the most critical part of the remote-viewing procedure is the judging. Any single experiment in remote viewing, even if perfect, can in principle be dismissed as possibly coincidence. Further, any result less than perfect can be dismissed as a generalized "grass is green, sky is blue" transcript that fits every target. Only blind differential discrimination across a series of targets can put these interpretations to rest.

To prepare the transcripts for judging, an investigator not involved in judging must read the transcripts and delete from them any reference to dates or previously used targets, so that a judge could not order the transcripts chronologically or otherwise obtain *a priori* information useful in matching.

Two judging procedures can then be used: Direct Matching, and Rank Ordering. Both procedures assume that n experiments have been carried out and n responses obtained. The judge must then try to determine which of the n responses goes with which of the n targets.

a. Direct-Matching Procedure

The n responses (transcripts with associated drawings) are numbered in random order and given to the judge along with the list of n targets, also in a (different) random order. The key is known by an investigator, but not the judge. The judge then visits the target sites and constructs a one-to-one correspondence list between targets and responses without replacement; that is, no target or response is used twice.

With the correspondence list and the aid of the key, the investigator then consults the statistical table for Direct Matching (Table A-1) to determine whether the result is statistically significant. For example, if there were 5 correct matches out of 9 responses, the table indicates that the probability of obtaining such a result by chance is $p = 0.003125$, or roughly 3 times out of a thousand. Since the accepted standard in behaviorial research is that a result can be considered significant if one obtains the value $p \leq 0.05$, such a result would be considered significant--that is, indicative of a nonchance correspondence.

The Direct Matching procedure is the simplest to carry out, but will give no credit for a fairly good description if a judge has difficulty in choosing between two possibilities and chooses the wrong one. This procedure is thus overly conservative. The more difficult Rank Ordering procedure, described next, gives partial credit in such a case, and is therefore a more precise statistical tool for analysis of medium-grade results.

b. Rank-Ordering Procedure

In the use of the Rank-Ordering procedure, the investigator randomizes the targets and transcripts as before. Now, however, each of n judges is given a set of the n transcripts but only one of the target sites to investigate. Each judge's task is to visit his assigned target

Table A-1

(U) DIRECT MATCHING (U)

THE PROBABILITIES OF M CORRECT MATCHES OUT OF N TARGETS

M \ N	1	2	3	4	5	6	7	8	9	10	11	12
0	...	.5000	.3333	.3750	.36667	.36806	.36786	.367882	.367879	.367879	.3678794	.3678794
1	1.000	...	.5000	.3333	.37500	.36667	.36806	.367857	.367882	.367879	.3678795	.3678794
2		.5000	...	.2500	.16667	.18750	.18333	.184028	.183929	.183941	.1839396	.1839397
3			.1667	...	.08333	.05556	.06250	.061111	.061343	.061310	.0613137	.0613132
4				.0417	...	.02083	.01389	.015625	.015278	.015336	.0153274	.0153284
5					.00833	...	.00417	.002778	.003125	.003056	.0030671	.0030655
6						.00139	...	.000694	.000463	.000521	.0005093	.0005112
7							.00020	...	.000099	.000066	.0000744	.0000728
8								.000025	...	.000012	.0000083	.0000093
9									.000003	...	.0000014	.0000009
10										.000000	...	.0000001
11											.0000000	...
12												.0000000

SIGNIFICANT AT $p \leqslant 0.05$
(4 or more out of any arbitrary N)

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site, read through all the transcripts, and order them best-to-worst match (1 through 5, say, if there are five targets and five transcripts).

With the aid of the key, the investigator then adds up the rank-ordering numbers assigned to each target's associated transcript. For example, if the actual response to a target was given a first place when a judge was looking at that target, then it gets a 1. If the actual response to a target was given a third place match when a judge was looking at that target, then it gets a 3, etc. The addition of these numbers 1 + 3 + ... then yields a number called the sum of ranks. One then consults the rank-ordering table (Table A-2) for the statistic of interest. For example, if there were 5 experiments (5 targets and 5 transcripts) and the sum of ranks was 9, the table for 5 x 5 gives a probability of obtaining such a rank ordering result by chance of 0.0403..., which is significant. A more complete set of tables is given in Solfvin et al.[25]

Table A-2

RANK-ORDERING TABLE

Number of Targets = 4; Number of Transcripts = 4

SUM OF RANKS	P-VALUE*
4	0.39063E-02
5	0.19531E-01
6	0.58594E-01
7	0.13672E 00
8	0.25781E 00
9	0.41406E 00
10	0.58594E 00
11	0.74219E 00
12	0.86328E 00
13	0.94141F 00
14	0.98047E 00
15	0.99609E 00
16	0.10000E 01

Number of Targets = 5; Number of Transcripts = 5

SUM OF RANKS	P-VALUE
5	0.32000E-03
6	0.19200E-02
7	0.67200E-02
8	0.17920E-01
9	0.40320E-01
10	0.79040E-01
11	0.13824E 00
12	0.21984E 00
13	0.32224E 00
14	0.43904E 00
15	0.56096E 00
16	0.67776E 00
17	0.78016E 00
18	0.86176E 00
19	0.92096F 00
20	0.95968E 00
21	0.98208E 00
22	0.99328E 00
23	0.99808E 00
24	0.99968E 00
25	0.10000E 01

*The notation E-02 is to be understood as 10^{-2}; E 01 as 10^{1}; etc.

Table A-2 (Continued)

Number of Targets = 6; Number of Transcripts = 6

SUM OF RANKS	P-VALUE
6	0.21433E-04
7	0.15003E-03
8	0.60014E-03
9	0.18004E-02
10	0.45010E-02
11	0.99023E-02
12	0.19676E-01
13	0.35880E-01
14	0.60764E-01
15	0.96472E-01
16	0.14463E 00
17	0.20585E 00
18	0.27939E 00
19	0.36310E 00
20	0.45357E 00
21	0.54642E 00
22	0.63689E 00
23	0.72061E 00
24	0.79415E 00
25	0.85537E 00
26	0.90353E 00
27	0.93923E 00
28	0.96412E 00
29	0.98032E 00
30	0.99010E 00
31	0.99550E 00
32	0.99820E 00
33	0.99940E 00
34	0.99985E 00
35	0.99998E 00
36	0.10000E 01

Table A-2 (Continued)

Number of Targets = 7; Number of Transcripts = 7

SUM OF RANKS	P-VALUE
7	0.12143E-05
8	0.97141E-05
9	0.43714E-04
10	0.14571E-03
11	0.40071E-03
12	0.96170E-03
13	0.20837E-02
14	0.41589E-02
15	0.77458E-02
16	0.13585E-01
17	0.22595E-01
18	0.35838E-01
19	0.54453E-01
20	0.79544E-01
21	0.11205E 00
22	0.15259E 00
23	0.20137E 00
24	0.25802E 00
25	0.32161E 00
26	0.39065E 00
27	0.46315E 00
28	0.53685E 00
29	0.60935E 00
30	0.67839E 00
31	0.74198E 00
32	0.79863E 00
33	0.84741E 00
34	0.88795E 00
35	0.92045E 00
36	0.94555E 00
37	0.96416E 00
38	0.97740E 00
39	0.98641E 00
40	0.99225E 00
41	0.99584E 00
42	0.99791E 00
43	0.99903E 00
44	0.99958E 00
45	0.99984E 00
46	0.99995E 00
47	0.99998E 00
48	0.99999E 00
49	0.10000E 01

Table A-2 (Continued)

Number of Targets = 8; Number of Transcripts = 8

SUM OF RANKS	P-VALUE
8	0.59605E-07
9	0.53644E-06
10	0.26822E-05
11	0.98348E-05
12	0.29504E-04
13	0.76711E-04
14	0.17899E-03
15	0.38356E-03
16	0.76663E-03
17	0.14447E-02
18	0.25867E-02
19	0.44264E-02
20	0.72724E-02
21	0.11515E-01
22	0.17628E-01
23	0.26157E-01
24	0.37702E-01
25	0.52890E-01
26	0.72328E-01
27	0.96562E-01
28	0.12602E 00
29	0.16095E 00
30	0.20139E 00
31	0.24714E 00
32	0.29772E 00
33	0.35237E 00
34	0.41012E 00
35	0.46982E 00
36	0.53018E 00
37	0.58988E 00
38	0.64763E 00
39	0.70228E 00
40	0.75286E 00
41	0.79860E 00
42	0.83905E 00
43	0.87398E 00
44	0.90344E 00
45	0.92767E 00
46	0.94711E 00
47	0.96229E 00
48	0.97384E 00
49	0.98237E 00
50	0.98849E 00
51	0.99273E 00
52	0.99557E 00
53	0.99741E 00

Table A-2 (Continued)

Number of Targets = 9; Number of Transcripts = 9

SUM OF RANKS	P-VALUE
9	0.25812E-08
10	0.25812E-07
11	0.14196E-06
12	0.56786E-06
13	0.18455E-05
14	0.51675E-05
15	0.12919E-04
16	0.29529E-04
17	0.62748E-04
18	0.12547E-03
19	0.23821E-03
20	0.43226E-03
21	0.75357E-03
22	0.12673E-02
23	0.20628E-02
24	0.32586E-02
25	0.50075E-02
26	0.75003E-02
27	0.10968E-01
28	0.15683E-01
29	0.21954E-01
30	0.30122E-01
31	0.40548E-01
32	0.53601E-01
33	0.69639E-01
34	0.88989E-01
35	0.11192E 00
36	0.13864E 00
37	0.16924E 00
38	0.20370E 00
39	0.24189E 00
40	0.28353E 00
41	0.32821E 00
42	0.37540E 00
43	0.42447E 00
44	0.47469E 00
45	0.52531E 00
46	0.57553E 00
47	0.62460E 00
48	0.67179E 00
49	0.71647E 00
50	0.75811E 00
51	0.79630E 00
52	0.83076E 00
53	0.86136E 00
54	0.88807E 00

Table A-2 (Concluded)

Number of Targets = 10; Number of Transcripts = 10

SUM OF RANKS	P-VALUE
10	0.10000E-09
11	0.11000E-08
12	0.66000E-08
13	0.28600E-07
14	0.10010E-06
15	0.30030E-06
16	0.80080E-06
17	0.19448E-05
18	0.43758E-05
19	0.92378E-05
20	0.18475E-04
21	0.35261E-04
22	0.64599E-04
23	0.11412E-03
24	0.19512E-03
25	0.32387E-03
26	0.52317E-03
27	0.82418E-03
28	0.12686E-02
29	0.19106E-02
30	0.28197E-02
31	0.40825E-02
32	0.58049E-02
33	0.81133E-02
34	0.11156E-01
35	0.15103E-01
36	0.20143E-01
37	0.26484E-01
38	0.34347E-01
39	0.43960E-01
40	0.55552E-01
41	0.69345E-01
42	0.85541E-01
43	0.10432E 00
44	0.12581E 00
45	0.15011E 00
46	0.17725E 00
47	0.20721E 00
48	0.23987E 00
49	0.27506E 00
50	0.31255E 00
51	0.35202E 00
52	0.39311E 00
53	0.43538E 00
54	0.47838E 00

Appendix B

SUMMARY OF KEY EXPERIMENTS IN LONG-DISTANCE
COORDINATE REMOTE VIEWING GENERATED FOR THIS PROGRAM
DURING PREVIOUS YEAR (U)

Next 4 Page(s) In Document Exempt

2. Sponsor-Designated Targets in the USSR (S)

a. Soviet Site 1 SG1A

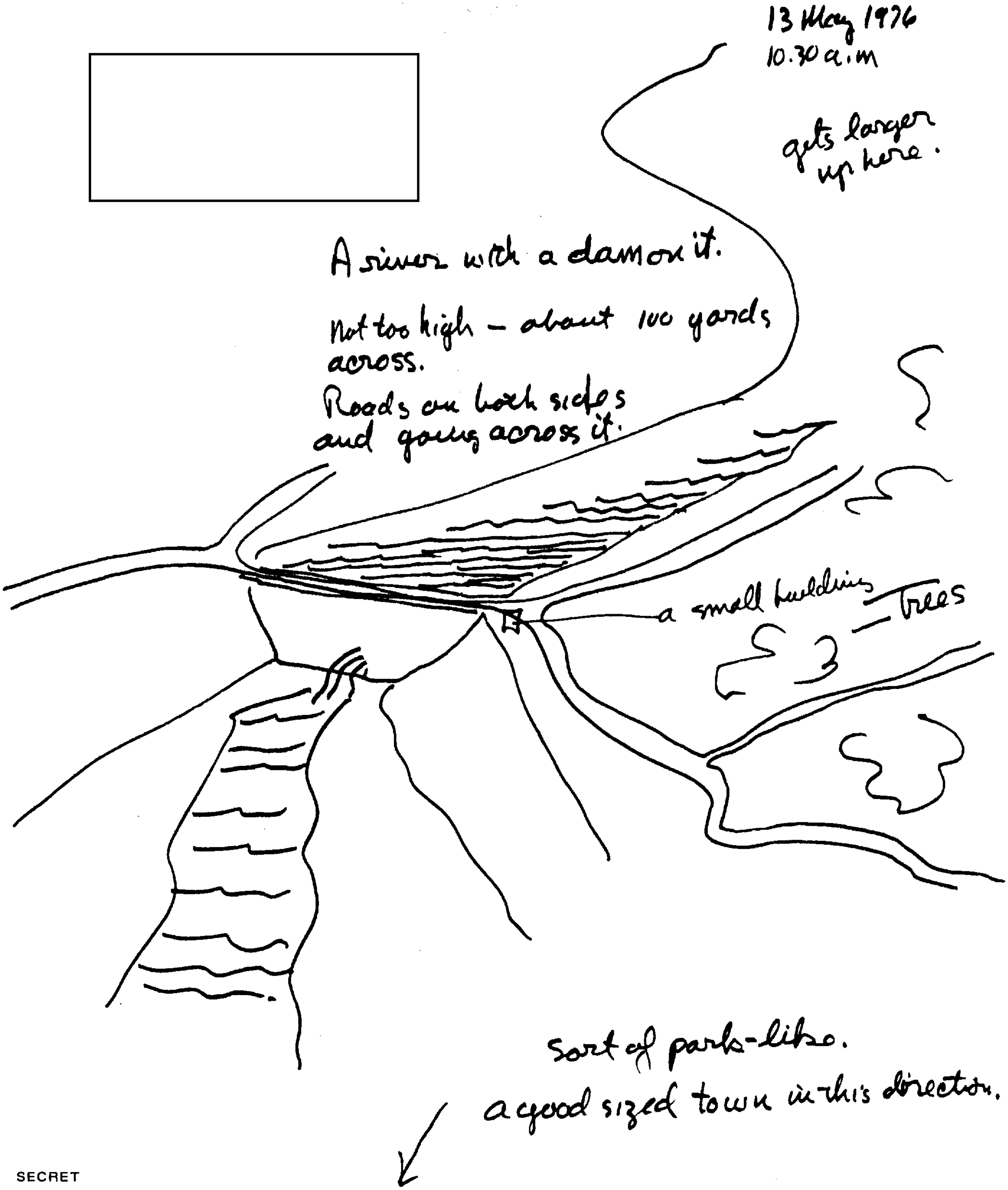
(S) The project monitor conveyed to SRI investigators the coordinates of the first Soviet site. Although the coordinates were intended to designate an airport of interest, they were obtained from a list that in fact corresponded to a nearby population center. In response, a subject targeted on this site generated the drawing of a dam as shown in Figure B-5. This drawing was delivered to the project monitor who had forwarded the coordinates. Although the existence of the dam was unknown to the project monitor when he chose the coordinates, he later verified that a dam resembling the subject's drawing was located within a few miles of the coordinates, roughly as far from the population center as the airport of interest.

(U) It was then agreed that the appropriate next step was to obtain an overview from the subject without indicating to him that the item of interest was an airport. Should he find an airport during this second phase, he would then be asked for more detail. This procedure was followed and resulted in the overview shown in Figure B-6; the subject did in fact mention an airport in his overview. After completion of the overview, the SRI investigator monitoring the subject's efforts requested more detail on the airport. Figure B-7(a) shows the runway outlines and nearby buildings, while Figure B-7(b) indicates detail on a structure at the end of the major runway. These data were evaluated by the project monitor, and much of the description was verified. Further details can be supplied on a need-to-know basis by the project officer.

b. Soviet Site 2 (S)

(S) Coordinates for a second Soviet site were given to SRI investigators, who then passed them on to a subject. As a result of an error on the part of the individual who chose the coordinates, the coordinates were not of a site of interest, but rather of a barren area out in the countryside.

SG1A



SECRET

FIGURE B-5 REMOTE VIEWING BY GEOGRAPHICAL COORDINATES OF DAM SITE IN THE USSR (S)

SG1A

N

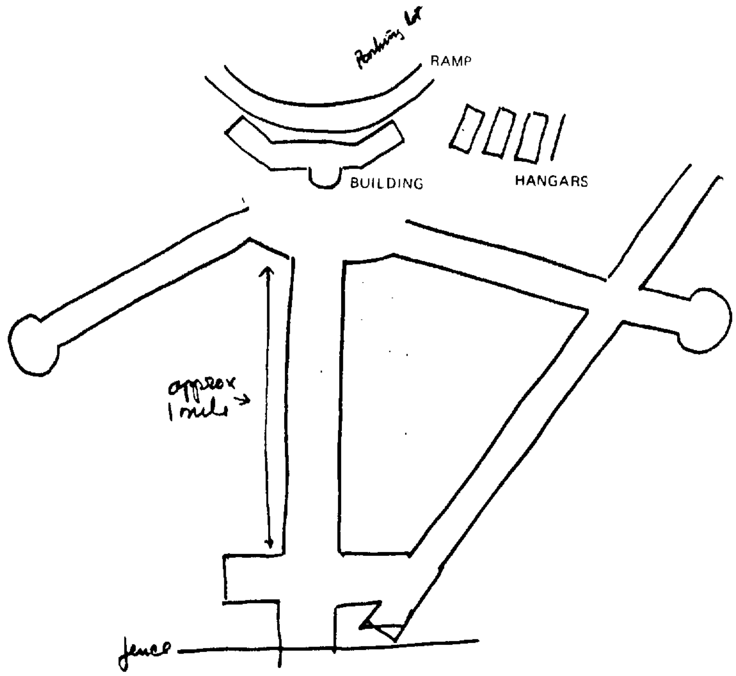
14 May 76
11.30 p.m.

This is sort of civilized countryside that reminds me of the outskirts of Prague. It is easier to describe it than draw a map. Some trees. A large highway. Lots of city to the NW. a large river. What seems to be an airport. Some radio towers — maybe a radar net. Another much smaller town (city) to the S.E.

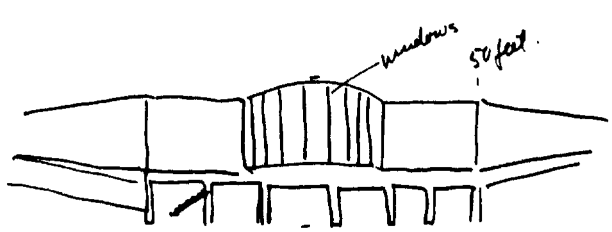
SECRET

FIGURE B-6 REMOTE-VIEWING OVERVIEW OF DAM-SITE LOCALE, SHOWING AIRPORT OF INTEREST IN THE LOWER LEFT (U)

I'd say this is a commercial field.
to the degree they have them



(a) DETAIL ON RUNWAYS

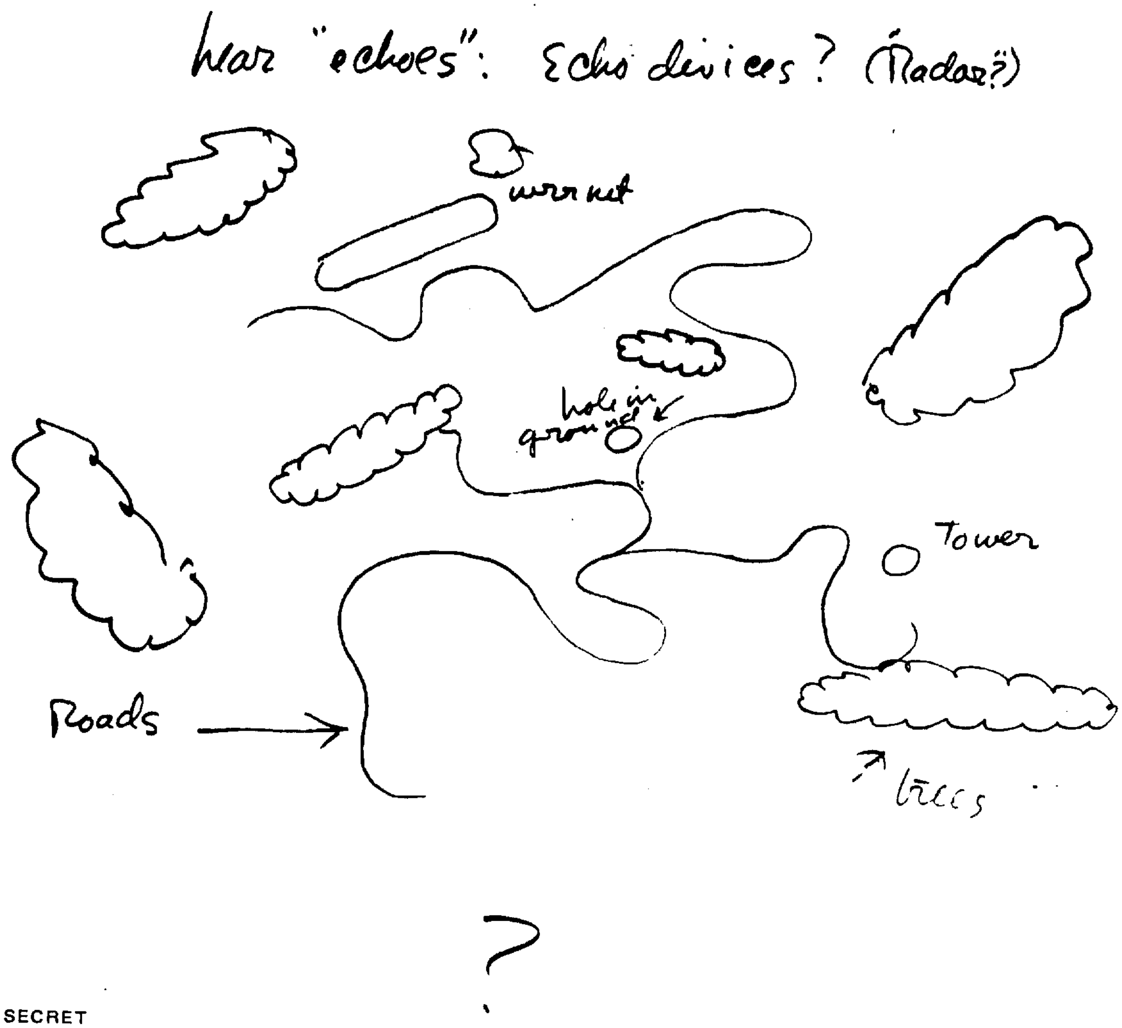


(b) DETAIL ON STRUCTURE AT END OF MAJOR RUNWAY

SECRET

FIGURE B-7 REMOTE-VIEWING SKETCH OF DETAIL ON RUNWAYS AND STRUCTURES (Soviet Airport) (S)

(U) In response to the coordinates, the subject described a town to the southwest and a relatively barren area with "loopy roads" at the target site (Figure B-8). As before, the sketches and a written description were turned over for evaluation to the project monitor, who subsequently verified the results as matching the coordinates given in error. The error thus provided an opportunity to verify that (1) the subject's output is not simply geared to match the expectations of the investigators, and (2) the subject does not simply conjure up what may reasonably be expected to be correct (an educated or "safe" guess), but in fact describes the area appropriate to the coordinates even though it may run counter to the subject's own expectations. This experiment thus inadvertently provided a control trial of the type useful in the testing of human abilities.



SECRET

FIGURE B-8 RURAL SOVIET SITE (S)

Appendix C

DATA-SOURCE TRANSCRIPT (COMPLETE) (U)

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Approved For Release 2003/09/09 : CIA-RDP96-00788R001300040001-4

Appendix D

ERROR-CORRECTING CODING AND THE REMOTE VIEWING OF TARGET SITES AS A MESSAGE-SENDING MEDIUM

Appendix D

ERROR-CORRECTING CODING AND THE REMOTE VIEWING OF TARGET SITES AS A MESSAGE-SENDING MEDIUM

One of the most successful psychoenergetic processes is the remote viewing of target locations demarcated by some means, such as the presence at the site of an individual known to the "viewer." Unfortunately, this process--which works so well--results in narrative descriptions that are difficult to assess in a quantitative manner.

In order to utilize the remote-sensing phenomenon as a tool to investigate the physical and psychological parameters of psychoenergetics processes, it is important to establish optimum analysis (judging) procedures. Because experiments are designed with the goal of varying specific parameters, such as subject shielding or the necessity of feedback, the analysis or judging procedure must be as rapid as possible, while retaining objectivity, if immediate feedback to both subject and investigators is to be provided.

To make an objective analysis of a single response from a subject during a remote-sensing experiment, it is necessary to quantify the target content in some discrete way. From an examination of the data base accumulated to date it would appear that at least five recurrent target attributes are frequently sensed correctly by our subjects. If each of these attributes is assigned a binary digit--a "one" if the attribute is present at the target site, and a "zero" if it is absent--we can, for the sake of research experimentation, construct a pool of 32 targets corresponding to all possible combinations of five individual attribute bits (see Table D-1).

A judging procedure utilizing the binary-coded target pool is as follows. After a target is selected at random, and after the subject has registered his response in the usual way, the judge's task is simply to ascertain from the subject's response whether each of the five

Table D-1

QUANTITATIVE JUDGING TECHNIQUE

Code Word Bit Position	Target Attribute	Bit Assignment
1	Inside Outside	1 0
2	Subdued lighting Bright lighting	1 0
3	Wet Dry	1 0
4	Passive Active	1 0
5	Man-made Natural	1 0

attributes is present (1), or absent (0). The resulting five-bit number is then compared to the actual five-bit number for the target. In the case of good functioning, it is possible to obtain statistically significant results with one or two such trials. From pilot work it appears that the individual attributes are identified with 80% reliability; thus the results indicate that this judging procedure may provide a rapid and accurate technique to use remote sensing as a tool to test various models of psychoenergetic functioning.

This technique provides an additional benefit for the transmission of messages. With judicious assignment of the attributes in terms of 1's and 0's, it is possible to transform a given target into one of the specially coded words shown at the top of Table D-2--for example, an indoor swimming pool would be rendered as the code word 10101. These code words are carefully chosen[37] to construct an error-correcting block code of a type commonly used for signal transmission over noisy information channels.

To send one of four messages using our standard remote-sensing protocol, an outbound team of investigators chooses the message whose attributes match one of the four shown on the top of Table D-2 and

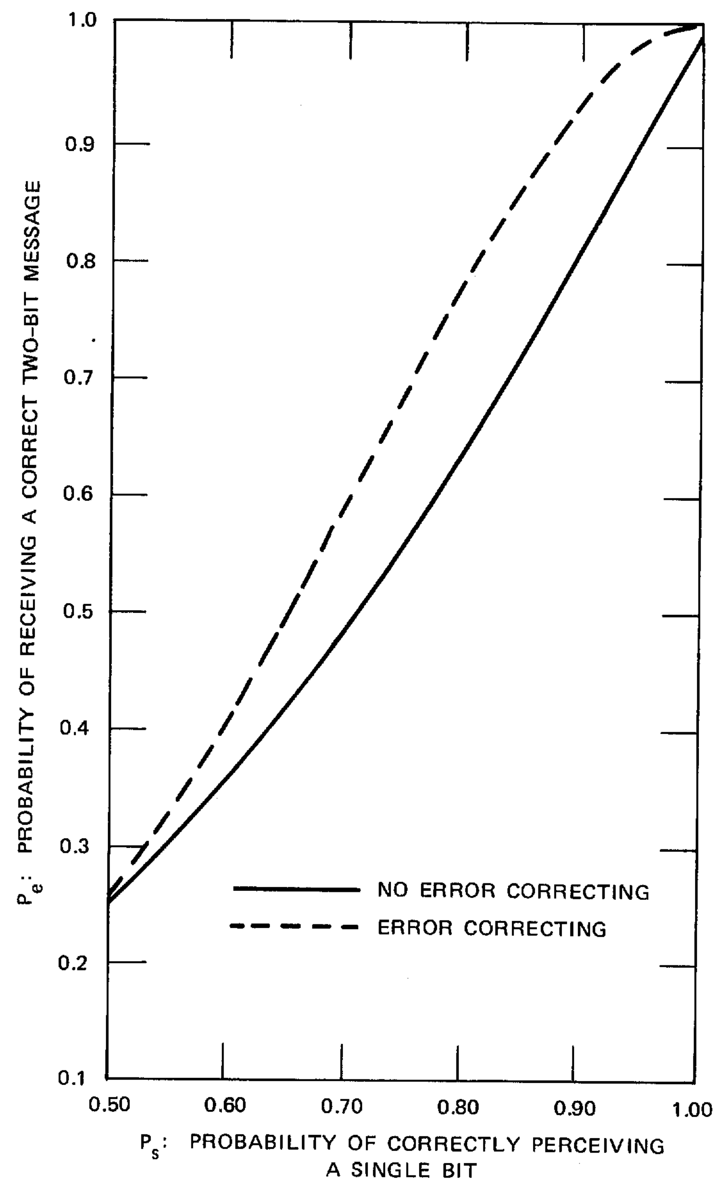
Table D-2

A 5-BIT DECODING MATRIX
(Two Information Bits, Three Parity Check Bits)

00000	01110	10101	11011	
00001	01111	10100	11010	Single Error Correction
00010	01100	10111	11001	
00100	01010	10001	11111	
01000	00110	11101	10011	
10000	11110	00101	01011	
00011	01101	10110	11000	Double Error Correction
01001	00111	11100	10010	

proceeds to a target location corresponding to the binary word chosen. The subject and his monitor then conduct a standard remote-viewing experiment. (The subject is encouraged to respond freely, and is discouraged from guessing with regard to the attribute list.) Once the response period is completed, a judge must form a single binary word from the subject's response, as described above. The judge then must find his "response" word somewhere in the decoding matrix shown in Table D-2 and choose as his "message received" the word that tops the column in which the response word appears. By inspection of Table D-2, one finds that the decoding matrix will correct for all single errors in attribute labeling, and will correct for some double errors.

Figure D-1 shows the enhanced probability of receiving a two-bit message correctly over that expected if no error correction is used. This procedure was used successfully in experiments described in Section VI.



UNCLASSIFIED

FIGURE D-1 USE OF A 5-BIT ERROR-CORRECTING CODE TO INCREASE PROBABILITY OF CORRECT MESSAGE RECEPTION (U)

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