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REMOTE-VIEWING REPLICATION: EVALUATED BY CONCEPT ANALYSIS

By Russell Targ

ABSTRACT: This is the first publication of a carefully conducted series of remote-viewing trials carried out at SRI International in 1979. In this formal experiment, we incorporated all the revisions in methodology suggested by critics of our earlier published experiments. We worked with six inexperienced volunteer subjects, each of whom attempted to describe six randomly selected distant locations visited by the experimenters. Four of these subjects achieved independent statistical significance in their six trials, evaluated by rank ordering of the six transcripts. The one-tailed probability of finding four percipients significant at $p < .05$ out of the six in this experiment is $p < 8 \times 10^{-5}$. This corresponds to a z score of 3.76 standard deviations from chance expectation, one-tailed. When we divide this by the square root of the number of trials (36) we obtain an effect size of 0.63. This effect size is comparable to that of prior SRI studies.

For more than a decade, scientists at SRI International investigated a human perceptual processing technique called remote viewing (RV). *Remote viewing* pertains to the acquisition and description, by mental means, of verifiable information about the physical universe blocked from ordinary perception by distance or shielding and generally considered to be secure from such access. In the 10 years since our original publications of remote-viewing studies (Puthoff & Targ, 1976; Targ & Puthoff, 1974), 24 replications have been attempted, with more than half of these being reported as successful (Hansen, Schlitz, & Tart, 1984). The purpose of the present study was to conduct a new remote-viewing experiment with inexperienced volunteer subjects, so that we could compare their results with the data we obtained when we began RV experiments in 1972. An additional motivation was our interest in formally evaluating a new judging technique called *concept analysis*, which we felt would enable judges to be more objective and therefore more reliable in assessments of the target-transcript correspondences in free-response trials.

I gratefully acknowledge the significant participation and important contributions made by Dr. Hal Puthoff, Dr. Edwin C. May, and Ms. Beverly Humphrey in the conduct and analysis of this experiment. I also acknowledge with appreciation the generosity of Dr. Jessica Utts in critiquing the statistical analysis used in this paper.

Basic Procedural Design

The general procedure in remote-viewing studies, as carried out at SRI, is to closet the percipient (hereafter called the *viewer*) with an interviewer and at a prearranged time to obtain from the viewer a description of an undisclosed, remote site being visited by a target team, one of whose members is known to the remote viewer and who thereby constitutes the target or "beacon" person.[1] The target team is assigned a target location selected at random from a list of targets located within a 30-minute driving time from SRI. The target pool consists of 60 target locations chosen from the target-rich San Francisco Bay Area (500 km^2). The target is determined by random-number access to a target pool of traveling orders prepared ahead of time by an experimental team (not including interviewers) and kept locked in a safe. The target location selected is kept blind to both the viewer and the interviewer closeted at SRI. The protocol is thus of the double-blind type.

During a predetermined viewing period of 15 minutes' duration, the remote viewer is asked to render drawings and describe into a tape recorder impressions of the target site being visited by the outbound target person. The interviewer, with the remote viewer, is kept ignorant of the target and is therefore free to request clarification of descriptions without fear of providing clues (overt or subliminal) about the particular target.

After the target person returns to SRI following the remote-viewing period, the viewer is taken to the target site in order to obtain direct feedback. Following a series of such trials over a period of several days, a formal blind-judging procedure is used to evaluate the data and quantify the results.[2]

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[1]The target person is designated as a *beacon* rather than a *sender* because the evidence to date indicates that the remote viewer exhibits an independence of viewpoint and mobility at the target site which takes the phenomenon beyond simply mind-to-mind information transfer.

[2]There is, however, a confounding factor that needs to be taken into account. Because general knowledge of the San Francisco Bay Area target region on the part of the remote viewer and interviewer must be taken as a given, and because particular knowledge of the contents of the target pool is revealed as a series progresses, in evaluating the results one must take into account the possibility that any particular description may be artifactually sharpened. Such sharpening can in principle increase the apparent quality of the result only if there is functional remote viewing to begin with; it cannot in the absence of remote viewing produce an inflated result. This sharpening possibility in the presence of an already functioning remote-viewing capability is handled in the statistical evaluation of the results by conservatively assuming the worst at the outset, and treating the series as belonging to that class of studies in which the elements of the target pool are known a priori to both remote viewer and interviewer, as in studies involving numbers or cards as targets.

During May, June, and July of 1979, six one-week remote-viewing series were conducted, one week with each of six participants. These series were carried out at a rate of two series per month. The viewers in these experiments were all adult males between 25 and 55 years of age. The six viewers were chosen as likely candidates from a group of 30 through interviews dealing with their life experiences and their thoughts and beliefs about ESP. The interviews were carried out jointly by Russell Targ (R.T.) and Hal Puthoff (H.P.).

Six remote-viewing sessions were conducted for each participant at a rate of one per day, except on Thursdays, when two sessions were conducted. The researchers divided the interviewing tasks and target selection tasks; R.T. always remained with the viewer for the first four trials and H.P. always acted as interviewer for the last two trials. We believe that this very slow rate of carrying out trials contributed significantly to the successful outcome of the series.

Remote Viewer and Interviewer Roles

An important methodological aspect of the SRI remote-viewing protocols is the use of a single information-gathering unit (the viewer and the interviewer) in which the remote viewer's role is designed to be that of perceiver (information source), and the interviewer's role is designed to be that of analytical control.

This division of labor is designed to mirror the two primary modes of cerebral functioning, nonanalytic cognition and analytic cognition. The nonanalytic cognitive style related to brain function predominates in spatial pattern recognition and other holistic processing (and is hypothesized to predominate in psi functioning). The analytical cognitive style predominates in verbal and other analytical functioning (Ehrenwald, 1975; Ornstein, 1973; Sperry, 1961). Only very experienced remote viewers appear to have the ability to handle both cognitive styles simultaneously.

Target-Pool Selection

Target locations in the San Francisco Bay Area are selected by a team of two Radio Physics Laboratory personnel who are not involved as interviewers in the experiments (to prevent direct knowledge of the target pool by the interviewers). The locations are chosen to satisfy the following criteria:

1. Target sites must be within a half-hour drive of the SRI Menlo Park complex to permit a uniform target access time for all experiments.

2. The target pool is constructed to contain several targets of various types—that is, several fountains, several churches, several boathouses, and so forth—specifically to circumvent analysis strategies in which one might reason, "There was a fountain yesterday so it is unlikely that there is a fountain today." Furthermore, targets of different types are *not* chosen to be particularly distinct from each other, so that overlapping features exist. In this manner the content of a given target, determined by random entry into the target pool, is essentially independent of the contents of other targets.

3. What constitutes each target is established in advance of the entire remote-viewing series by written descriptions on a set of 3-×-5-inch target cards. (For example, "*Four Seasons Restaurant*, on El Camino Real, just north of San Antonio Road. Stand under the entry arch and feel the bricks.") These cards constitute the outbound team's instructions at the beginning of the trial and the judge's target list during the evaluation phase.

Target Storage and Access

The target cards are numbered and placed in similarly numbered individual envelopes by the target-selection team and then stored in a locked safe inaccessible to the remote viewers.

At the start of a remote-viewing session, the interviewer, remote viewer, and target person meet together in the laboratory and establish the trial start time (30 minutes hence). The target person then leaves the laboratory, generates a random number by using the random-number function on a Texas Instruments Model SR-51 hand calculator (whose randomness has been verified by a separate test), obtains the associated envelope from the safe, and departs for the target site. All targets are chosen with replacement.

Remote-Viewer Orientation

During the period that the target person is en route to the target, the interviewer and remote viewer have a period to relax and discuss the protocol. The goal of the interviewer during this period is to make it "safe" for the remote viewer to experience remote viewing. The initial orientation of a new remote viewer typically includes a discussion of remote viewing as natural, rather than abnormal, a function which many people appear to have done successfully.

The remote viewer is told that analysis, memory, and imagination constitute a kind of mental noise in the channel, and, therefore, the closer to raw uninterpreted imagery, the better. Reporting of raw

perception is encouraged, rather than analysis, because the former tends to be correct whereas the latter is often incorrect.

Because remote viewing is a difficult task, apparently similar to the perception of subliminal stimuli (Dixon, 1979), it requires the full attentive powers of the remote viewer. Therefore, the environment, procedures, and so forth are designed to be as natural and comfortable as possible to minimize the diversion of attention. No hypnosis, strobe lights, or sensory-deprivation procedures are used, because we believe that such (novel) environmental factors would divert some of the subject's much-needed attention.

Behavior of the Interviewer

The interviewer arranges ahead of time to have available a tape recorder, and pen and paper for drawing. Room lighting is subdued to prevent after-image highlights, shadows on eyelids, and so on. Before the first trial, we consider it important to take about a half hour for a feeling of trust, rapport, openness, and seriousness of purpose to develop between the viewer and the interviewer.

When the predetermined trial time arrives, the interviewer simply asks the remote viewer to describe the impressions that come to mind concerning the location of the target person. The interviewer does not pressure the remote viewer to verbalize continuously; otherwise, the remote viewer might tend to embroider descriptions to please the interviewer, which is a well-known syndrome in behavioral studies of this type. If the remote viewer becomes analytical in reporting the data he perceives ("I see Macy's"), the interviewer gently leads him into description, rather than analysis ("You don't have to tell me where it is, just describe what you see."). This is the most difficult, but most important, task of the interviewer; it is apparently necessary for good results, especially if the remote viewers are inexperienced. It is also useful for the interviewer to surprise the remote viewer 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 remote viewer's viewpoint appears to be mobile and can shift rapidly with a question like this; it is as though the data come through before the viewer's defenses activate to block it out. Some shifting of viewpoint also obviates the problem of the remote viewer's spending the entire session time giving meticulous detail of a relatively trivial item, such as a flower, which, even if correct, will generally be of little use in assessing the session. When remote viewers feel they see something, they tend to hang on to this perception rather than commit to a new viewpoint. It is important to recognize again that in the division of labor between remote viewer and interviewer, it is the interviewer's (not the

remote viewer's) responsibility to see that the information necessary to permit discrimination among the range of target possibilities is generated, whereas the remote viewer's responsibility is confined to exercising the remote-viewing faculty (i.e., describing mental pictures).

Sometimes the viewer draws a mental blank, and does not have any mental pictures to describe, and will say something like: "I close my eyes, and it's dark." An intrepid interviewer might say something like the following under these conditions: "In 45 minutes we will take you to the target site. Can you look into your future, and tell me now what you will be experiencing then?" We have found that this approach is often surprisingly successful. It corresponds to our data suggesting that psi has a nonlocal nature and that there are no known space-time limits to psi abilities.

Often, a viewer will say something like, "I see something like a fire hydrant." What this tells the interviewer is that what the viewer is seeing is *not* a fire hydrant. Here is a good time for the interviewer to ask the viewer, "What are you experiencing (seeing) that makes you think of a fire hydrant?" We encourage the remote viewer to sketch pictures and write descriptions, even over his objections of not being an artist, being unable to sketch, and the like. The viewer may do so throughout, or wait until the end of the session if intermittent drawing would distract his concentration. Because drawings tend to be more accurate than verbalizations, this is an extremely important factor for generating positive results.

Behavior of the Target Person

After obtaining a target card in the manner described earlier, the target person proceeds to the target site indicated. The target person is asked to arrive at the target location at the designated starting time so that the view of it is fresh at the beginning of the remote-viewing period. The task is then simply to pay attention to the environment as dictated by instructions on the target card. At the end of the predetermined target-viewing time of 15 minutes, the target person returns to the lab.

Postexperiment Feedback

After the target person returns and all the raw data have been filed, the interviewer, remote viewer, and target person proceed directly to the target site for feedback. This procedure helps to develop the remote viewer's sense of which aspects of his mental imaging process are correct and which are incorrect. This process appears to bring the trial to

closure for the remote viewer, so that in a later session, questions concerning performance in the previous session are not a mental distraction. Only a very experienced subject can function well time after time without feedback; so feedback is provided for each trial to optimize the potential for success.

Evaluation Procedure

In a sense, the most critical part of the standard remote-viewing procedure is the evaluation procedure. Any single experiment in remote viewing, even if perfect, could in principle be dismissed as a possible coincidence. Further, any result less than perfect might be called into question as a generalized grass-is-green, sky-is-blue transcript that fits every target. Strictly speaking, only *blind differential discrimination* of transcripts across a series of targets can provide a basis for discriminating between these potential artifacts in the data and the remote-viewing interpretation.

A numerical evaluation is obtained for the accuracy of a standard six-trial remote-viewing series with a given remote viewer. The process is as follows: The results are subjected to judging on a blind basis by an SRI research analyst not otherwise associated with the series he is to judge. To be specific, two project personnel acted as interviewers (R.T. and H.P.), and two others (Ed May and Beverly Humphrey) interchanged roles in alternate series as target person and blind judge. The individual who acted as judge for a given series was isolated from the viewer and others involved in the series to prevent contamination.

Prior to judging, certain preparations are carried out. The resulting transcripts are then edited only to the extent of deleting information that might act as artifactual cues to a judge, such as references to previous targets or phrases that might indicate the temporal order of the transcripts. The editor is, of course, blind as to the actual target.

The transcripts (including associated drawings) and target cards, each arranged in their own random order different from the order of target usage, are then turned over to the judge. The judge is instructed to visit the target locations on the basis of the target card instructions and to blind rank order on a scale of 1 to 6 (best to worst match) each of the six transcripts against each of the six target sites, generating a 6×6 matrix. We note that the ranks are not independent.

Concept Analysis

To carry out this task, the judge must assess, qualitatively, the degree of correspondence between a given transcript and target. We have

developed a concept-analysis procedure that provides for such detailed comparisons. We begin by analyzing each transcript for specific content. The blind judge divides the transcript into a list of specific concepts, in which a concept may consist of a single word or phrase from the transcript (e.g., "red"), or a single word or phrase that summarizes a lengthy idea (e.g., "shady"). A list of concepts is made for each transcript in a series to be judged.

The analysis proceeds by having the judge, who is blind to which transcripts actually match which targets, stand at the first target location on his target list, and for each transcript make an assessment, concept by concept, on a rating scale of 0 to 10. A rating of zero implies no correspondence whatever between that particular concept and the target site in question, and a score of 10 implies complete correspondence. Intermediate scores are given in proportion to the extent of the correspondence. The judge does this for each of the concepts, one by one, in the first transcript, then repeats the assessment as independently as possible for all the concepts in all the remaining transcripts. The judge then proceeds to the next target site on the list and repeats the concept assessment for all the transcripts for that site. After evaluating all the travel sites in this manner, the judge computes the average rating score for all concepts in each transcript matched against each target site. When there are six trials in the series, there are 36 such averages. The concept analysis for two transcripts of Viewer 6 are shown in Table 1.

In the second step of the judging procedure, the judge displays the results in a matrix, with targets displayed as rows and transcripts displayed as columns. An example from this experiment (Viewer 6) is shown in Table 2. At this point in the analysis, the judge submits the results. A precise measure of the statistical significance of the matrix of target-transcript relations is given by a direct-count-of-permutations method of great generality (Scott, 1972). It is an exact calculation method requiring no approximations such as normality assumptions. Furthermore, the judging processes that went into generating the matrix are not required to be independent transcript-to-transcript or target-to-target. Finally, the statistical evaluation procedure is general enough that, in addition to being applicable to the blind rank-order procedure in use at the present time, it can be applied to analyses in which numerical estimates of target-transcript correspondences are made on the basis of other rank-order or rating scales. This includes arbitrary scale ratings derived by some complex procedure involving many factors. These could occur, for instance, in multiple-judge voting. In such cases, for any given target, several transcripts are given the same rating, all transcripts are rated zero, a few transcripts are assigned rank-order numbers, and the remainder are assigned the mean of the remaining rank-order

numbers, and so forth. The sole requirement is that no artifactual information is provided as to the *order* of targets or transcripts. In particular, it

TABLE 1
VERBAL CONCEPT ANALYSIS FOR TWO TRANSCRIPTS, EACH COMPARED WITH THE SIX TARGET SITES

	Target Number					
Concept List	1	2	3	4	5	6
Transcript B (Shielded Room)						
1. Outbounder is restricted to some small area	9	0	4	5	0	6
Inside something square, looking out	9	1	3	2	1	6
Dark inside, flashes of dark and light	9	4	4	1	4	6
Six feet high, smallish	9	3	1	1	0	8
2. Stone or rough-textured like stone	1	9	3	8	8	1
Stone wall with squared-off arched entrance	1	9	1	6	3	1
Stone is brownish, beige, dark	5	6	1	7	5	5
Castle type design	1	4	6	2	8	1
3. Ground or floor is cement or something hard	9	1	9	4	4	9
4. Large etched oval design (manmade) in front of entrance	1	2	0	2	0	3
5. V-shapes, dark objects, drawings of birds	0	0	0	1	6	0
6. Fluffy white clouds	0	5	1	5	1	2
7. Hanging things, like vines	8	0	0	0	0	4
8. Isolated versus activity	5	5	3	4	5	3
9. Manmade old-looking place	3	6	3	3	3	3
Totals	70	55	39	51	48	58
Averaged verbal score	4.7	3.7	2.6	3.4	3.2	3.9
Transcript C (Alta Mesa Cemetery)						
1. Water versus no water	0	0	0	0	0	0
2. Looking out through wild grass, reeds, tall grass	1	6	0	0	1	3
3. Looking out thru hole, something round & dark	5	7	3	6	1	5
4. A dark object jutting out, "a land mass or a big rock"	4	8	5	4	6	1
5. Trees, looking down through trees	0	9	1	2	4	8
6. Striated vertical brown cliffs, not really high, next to water	4	5	0	7	6	6
7. Natural area, not manmade	0	4	0	0	0	0
8. Concrete foreground	5	2	7	6	6	2
Totals	19	41	16	25	24	25
Average verbal score	2.4	5.1	2.0	3.1	3.0	3.1

TABLE 2
RESULTS OF VERBAL CONCEPT ANALYSIS OF TRANSCRIPTS IN A REMOTE-VIEWING EXPERIMENT

	Transcripts—Ratings					
Targets	A	B	C	D	E	F
Shielded Room	2.8	4.7	2.4	2.8	3.4	2.35
Alta Mesa	3.8	3.7	5.1	3.2	2.25	4.1
Ely Chevrolet	3.0	2.7	2.0	2.0	4.5	4.3
Four Seasons	4.5	3.4	3.1	3.1	2.75	4.4
Methodist Church	2.6	3.5	3.0	2.6	4.25	5.9
Library Stacks	4.4	3.5	3.1	3.1	4.5	5.8
	Transcripts—Rankings					
Shielded Room	4	1*	5	3	2	6
Alta Mesa	3	4	1*	5	6	2
Ely Chevrolet	3	4	6	5	1*	2
Four Seasons	1*	3	4	5	6	2
Methodist Church	6	3	4	5	2	1*
Library Stacks	3	4	6	5*	2	1

*Denotes target/transcript key

can be shown that if targets are used with replacement or are nonorthogonal, the method applies *even in the case in which there is trial-by-trial feedback and the target pool is known a priori by both remote viewer and interviewer.* Thus, the possibility of interviewer cueing or subject guessing made on the basis of a priori knowledge of the target pool is handled at a fundamental level by a statistical procedure that assumes the worst. The argument is as follows: In the absence of knowledge as to which transcript was generated in response to which target, one observes that in setting up the target-transcript matrix there are $n!$ possible ways to label the columns (transcripts), given any particular order of the rows (targets), and vice versa. Thus, there are $n!$ possible matrices that could be constructed from the raw judging data, all of them equally likely under the null hypothesis that the viewer's remote-viewing attempts produce nothing but vague and general descriptions or occasional chance correspondences with various target sites. Each matrix has an associated sum on the matrix diagonal that corresponds to a possible alignment of targets. The significance level for the experiment is then determined by counting the number of possible matrices that would yield a result (diagonal sum) equal to or better (i.e., lower sum of ranks in the rank-order case,

higher sum of scores in the correspondence-rating case, etc.) than that obtained for the matrix corresponding to the key, and dividing by $n!$. This ratio gives the probability of obtaining by chance a result equal to or better than that obtained in the actual judging process. For the results shown in Table 2, we find, by direct computer count of the 6! matrices obtained by interchanging columns, that the probability of obtaining equal or better matching by chance is $p = 2/6! = .003$.

Results and Discussion

We have described in some detail how a judge arrives at a numerical ranking of the trials in a formal blind evaluation of a series by use of concept analysis of the transcripts. The overall results of the formal judging of this study are shown in Figure 1. Although in blind ranking one would expect one first-, one second-, . . . one sixth-place match for each person, or six of each for the six viewers combined, we find in fact that over half (19) of the 36 transcripts were first-place matched to the appropriate target. The result replicates that obtained in our laboratory in our original study (Puthoff & Targ, 1976).

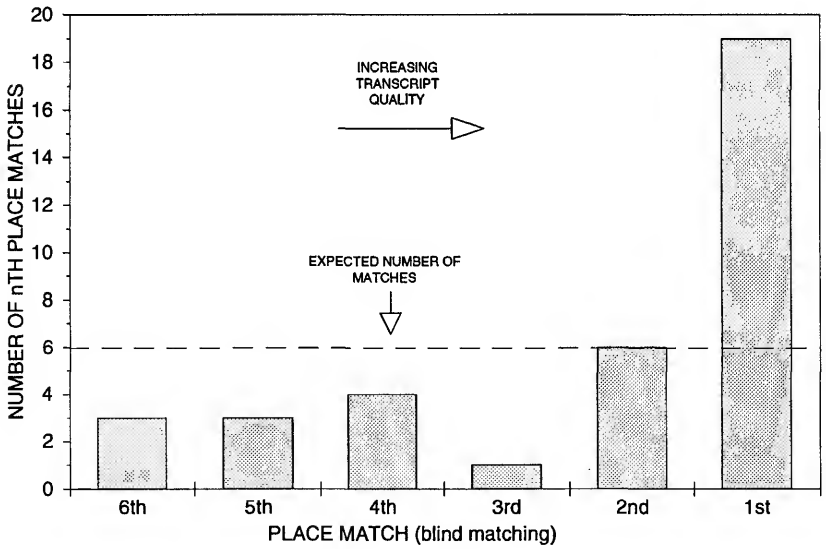

Figure 1. Distribution of 36 target/transcript correspondences for local target sites (6 subjects, 6 transcripts each), showing more than 50% first-place matches.

TABLE 3
TOTAL SCORES FOR EACH OF THE SIX VIEWERS

Viewer Number	Target	Blind Place Match
1	White Plaza (Stanford)	1
	Stanford Art Museum	4
	Fire Circle	5
	Logo	6
	Valombross Conference Center	6
	Pedestrian Overpass	4
		Nonsignificant
2	SRI Courtyard	3
	Varsity Theater Arcade	2
	Glass Slipper Motel	6
	Wallbangers Racquetball Court	4
	Airport Tower	1
	Shielded Room	5
		Nonsignificant
3	Stanford Art Museum	2
	Baylands Nature Preserve	1
	Alta Mesa Cemetery	2
	Jungle Gym	1
	Salt Pile	1
	Brickyard	1
		$p < .003$
4	Merry-Go-Round	2
	Windmill	1
	Stanford Art Museum	4
	Methodist Church	1
	Four Seasons Restaurant Arch	1
	Mt. Alverno Conference Center	1
		$p < .003$
5	Stanford Shopping Center	1
	Bowling Alley	1
	Alta Mesa Cemetery	2
	Hoover Tower	1
	Swimming Pool Complex	2
	Miniature Golf Course	1
		$p < .003$
6	Alta Mesa Cemetery	1
	Four Seasons Restaurant Arch	1
	Shielded Room	1
	Automobile Showroom	1
	Palo Alto Library Stacks	5
	Methodist Church	1
		$p < .003$

As the data in Table 3 show, four of the six viewers were independently significant. The one-tailed probability of finding four out of the six percipients significant at $p < .05$ is $p < 8 \times 10^{-5}$, which corresponds to a z score of 3.76 standard deviations from chance expectation, one-tailed. This, divided by the square root of the number of trials (36), gives an effect size of 0.63, which is comparable to what was seen in our laboratory at that time. According to Cohen (1988), this effect size is large. For comparison's sake consider the effect size for the combined ganzfeld results reported by Bem and Honorton (1994): It was 0.159. Because both of our studies and theirs use "unselected" participants, the comparison seems valid. May, Spottiswoode, and James (1994) propose that such a difference in effect size might arise from the target-pool design. They define the *target-pool bandwidth* as being the number of cognitively differentiable elements in the pool. In the ganzfeld, the targets can be nearly anything, whereas in this study the targets possessed a significantly smaller bandwidth.

A second observation from our study is that, in general, there is more variability from trial to trial within a given viewer's set of transcripts than there is between the viewers themselves. There were no viewers in the group who did not show some evidence for good remote-viewing trials, even though their individual series may not have reached the $p = .05$ level of departure from chance expectation.

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Bay Research Institute
1010 Harriet Street
Palo Alto, CA 94301