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REANALYSIS OF SRI REMOTE VIEWING EXPERIMENTS

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INFORMATION TRANSMISSION IN REMOTE VIEWING EXPERIMENTS: II

Marks and Kammann in a recent letter to Nature[1] report failure in their attempt to replicate our experiments in "remote viewing," the ability of certain individuals to access and describe, by means of mental processes, information blocked from ordinary perception by distance or shielding.[2-4] In order to account for the discrepancy between their failure and our reported success, they hypothesize that the apparent success in our experiments may be an artifact of statements in the subject transcripts which provide extraneous cues useful to judges attempting to blind match transcripts to target sites. Marks and Kammann argue post hoc that examples from the transcripts of our first published experiment--a nine-trial series with subject Price[2]--support their hypothesis. Generalizing to the rest of our work they then conclude that the remote viewing phenomenon is as yet unconfirmed.

We present here and in the following letter by Tart, evidence demonstrating that their conjecture is invalid for our work in general, and for the Price series in particular. For the Price series we include a rigorous test of their hypothesis, which we show to be false.

Background. At the beginning of an experiment, one experimenter is closeted with a subject to await an agreed-upon start time. A second experimenter is then sent, by random-number access to a previously prepared target pool, to a target location in the San Francisco Bay Area (~ 250 square km). During a predetermined 30-min viewing period the subject is asked to render drawings and describe into a tape recorder his impressions of the target site being

visited by the outbound experimenter. The experimenter remaining with the subject is kept ignorant of both the particular target and the contents of the target pool, and is therefore free to question the subject to clarify his descriptions without fear of cueing, overt or subliminal.

Following a series of such experiments over a several-day period, the data are given to independent judges for various forms of blind analysis such as correlation of target/transcript descriptors, blind matching, etc. In the blind-matching procedure, which provides an overall estimate of target/transcript correlations, a judge attempts to blind-match transcripts to target sites, putatively on the basis of information in the transcripts derived via the remote-viewing channel. For this matching process, extraneous cues that might be helpful to a judge must be absent from the judging package. Although in the Price series in question we took certain precautions to ensure that the judging package was cue-free (light editing of transcript preambles, randomization procedures), Marks and Kammann assert that the process was not carried far enough. Indeed, they hypothesize that certain phrases that were not edited out of the transcripts (e.g., "second place of the day") are solely responsible for the target/transcript matchings, and that "the successful identification of target sites by judges is impossible" in the absence of such phrases.

Rejudging. To test the Marks-Kammann hypothesis rigorously, the nine-transcript series in question was turned over to an independent research psychologist[5] for rejudging on the basis of the criteria implied by the Marks-Kammann criticism. He set himself the task of going over the transcripts carefully, removing all phrases suggested as

potential cues by Marks and Kammann, and editing the transcripts still further, removing any additional phrases for which even the most remote post hoc cue argument could be made. He then arranged to have the series rejudged by an independent qualified judge[6] who was completely unfamiliar with this study. The materials turned over to the judge consisted of the newly edited transcripts presented in random order, and the list of target sites, also in random order (different from both the transcript random order and from the order of original target usage). The judge was instructed to provide, on a blind basis, a detailed content analysis of target/transcript correlations, which required that she visit each target site and rate transcripts to targets on a scale of 0-100 for all possible combinations. These data also yield the conventional overall measure of target/transcript correlations by indicating the best transcript description from the set of nine for each target.

Results. The result of the blind matching of transcripts to target sites in the rejudging was that seven of the nine were correctly matched, the same results obtained by the best two of the previous six judges.[1,2] The appropriate statistic for this overall matching result is derived assuming non-independent assignment of transcripts to target sites (as in guessing the order of a random sequence of the digits zero through nine, each used once);[7] the result (seven out of nine correctly matched) is significant at $p < 10^{-4}$. The more detailed matrix of target/transcript rating correlations can be analyzed by the Pratt-Birge method;[8] the result obtained by this analysis is significant at $p < 10^{-9}$. (For details, see accompanying letter by Tart.) The greater significance obtained by the latter, more sensitive measure of

target/transcript correlations reflects the following fact: The judge found that, with the exception of two transcripts that did not appear to correspond to any site, the remaining seven transcripts each showed high correlation to one (correct) site and low correlation to the others.

Therefore, on the basis of an independently conducted empirical test, we can reject as invalid the Marks-Kammann conjecture that success in our first-published study on remote viewing might be attributable to cueing artifacts rather than to transcript/target correlations.

Discussion. To place the preceding arguments in proper perspective, we first draw attention to the fact that the Marks-Kammann critique did not address the quality of the remote-viewing descriptions in the transcripts per se, but was instead limited to criticism of a particular judging procedure used to evaluate those descriptions. With regard to the descriptions themselves, we note that in the nine-transcript series in question, when the target was a boat marina the subject gave a consistent narrative that began with "What I'm looking at is a little boat jetty or boat dock along the bay. It is in a direction about like that (pointing) from here. Yeah, I see the little boats, some motor launch (sic), some little sailing ships...." For a landmark Hoover Tower site, the subject summarized his impressions as "The area--I have a place--seems like it would be Hoover Tower." For a recreational swimming pool site with a 75' x 100' rectangular pool and a 120' diameter circular pool, the subject made a drawing of the target area as centered about two pools of water, which he dimensioned as a 60' x 89' rectangular pool and a 120' diameter circular pool; and so

forth. Furthermore, as pointed out above, blind content analysis of the transcripts, which provides a sensitive measure of the degree of target/transcript correspondences, confirms objectively the subjective impression of above-chance correspondences that one infers from examples such as the above. With data of this quality we would argue that it is not surprising that empirical test failed to confirm the cueing-artifact hypothesis put forward by Marks and Kammann, but rather confirmed that the target/transcript matches in our first remote-viewing study are to be attributed (as originally interpreted) to the quality of the subject's descriptions themselves.

Secondly, we note that in our extensive replication studies,[3] which also yielded significant results, the Marks-Kammann criticisms do not apply in principle. Target lists and transcripts were separately randomized, and transcripts were carefully checked prior to judging to ensure absence of any phrasing for which even a weak post hoc potential-cue argument could be made.

Finally, where Marks and Kammann report failure in their attempt to replicate our remote-viewing results, there are other laboratories who, following our procedures, have reported success.[9-13] We will have to await disclosure of the Marks-Kammann protocols to determine whether failure on their part can be traced to differences in procedure.

Given (1) the failure (by empirical test) of the Marks-Kammann cueing-artifact hypothesis to account for the success of our first-published remote-viewing study,[2] (2) the level of significance of detailed content analysis of that study, (3) the inapplicability of their hypothesis to our later replication studies,[3] and (4) the continuing successful replication of this work in our own and other

laboratories,[14-15] we stand confirmed in our original conclusion that remote viewing is a viable human perceptual capability.

We wish to thank Prof. Charles T. Tart, University of California, Davis, for his contribution in carrying out the independent rejudging study necessary for the test of the Marks-Kammann hypothesis.

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5. Prof. Charles T. Tart, Department of Psychology, University of California, Davis.

6. Qualified on the basis of having previously demonstrated competence in blind matching and verbal content analysis of similar materials--see accompanying letter by Tart for details.

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REANALYSIS OF SRI REMOTE VIEWING EXPERIMENT

Marks and Kammann[1] examined the transcripts of the first remote-viewing experiment published by Targ and Puthoff[2] and hypothesized that inadvertent cues in the subject's (Pat Price) and experimenter's remarks might have provided an artifactual basis for matching the transcripts and target sites. They also report attempts by two judges of their own selection to match a subset of five of the transcripts (with potential artifactual cues edited out) and target sites. This judging produced only chance results, leading them to conclude that no evidence for extrasensory perception (ESP) exists in this particular remote-viewing series. Although the case for ESP in general and remote-viewing in particular is based on many other experiments[3] to which this artifactual cueing hypothesis is not applicable, I felt it was important to test the Marks and Kammann hypothesis, because the published examples of data from the Price series seemed to show exceptionally strong ESP functioning. My independent reanalysis of the Price series, after eliminating possible artifacts of the type hypothesized by Marks and Kammann, shows it to be exceptionally significant and indicative of ESP functioning.

In analyzing experimental results of this type, somewhat ambiguous verbal material must be skillfully matched to see if there is ESP "signal" among the noise of guesses and generalities. Such analysis involves two assumptions that should be made explicit: (1) The judge has whatever specialized intellectual faculties are needed to discriminate the signal from the noise in the transcripts, and (2) the judge is motivated to use these faculties effectively. If these two assumptions are not reasonably well met, then we cannot reliably decide

whether ESP is present in verbal material. In particular, the judging analysis can produce a negative result if the judge does not possess the necessary discrimination, or if he is not motivated to use these faculties or is negatively motivated, or if no ESP is present in the data.

To minimize the likelihood of negative results from an incompetent or poorly motivated judge in rejudging the Price series, I began with a simple judge selection procedure. I obtained transcripts from another successful remote-viewing series (not the Price series) of Puthoff and Targ[4] and constructed a test set of five transcripts and five target sites. Transcripts were edited by me to be certain no artifactual clues of the type postulated by Marks and Kammann were present. The transcripts were then randomly ordered, and the target locations were arranged in another random order. Two potential judges who had no knowledge of the published data on the Price series or the test series were asked to match the test set of targets and transcripts. One of the two judges scored at chance (one of five possible correct matches) and was thus disqualified from judging the Price series, while the other correctly matched all five transcripts, and was thus selected to blind judge the Price series.

I then obtained the nine transcripts of the Price series and the list of target sites from Targ and Puthoff, and edited them to delete all references that could conceivably give any indication as to the order of the experiments. I also deleted all remarks that referred even indirectly to other experimental sessions. This procedure eliminated potential cues of the type hypothesized by Marks and Kammann.

I arranged the nine edited transcripts of the Price series in random order, and the nine target locations in another random order. The judge was instructed to first visit all nine sites[6] to get a general familiarity with them before reading any transcripts. She was then asked to visit each site and, while there, to rate each of the nine transcripts against that site on a 0-to-100-point scale, with zero representing no similarity and 100 representing a very high degree of similarity between target site and transcript.

The judge's results were analyzed by the Pratt-Birge technique[7] for evaluating degree of correspondence between descriptions and sites. This statistical method basically tests the null hypothesis that the subject's descriptions are generalities, randomly distributed as to correctness over all target sites, versus the ESP hypothesis that the subject said specific and correct things about particular sites that he was intending to describe. This method is more sensitive for evaluating this kind of material than simple ranking or only counting first-place matches, because it takes the magnitude of the judge's ratings into account. The results are shown in Table 1.

Insert Table 1 about here

As can be seen from the table, the judge rated most transcripts as having zero resemblance to most sites. When she did see correspondence between sites and transcripts, however, it was frequently a high degree of correspondence (80 to 100 points). For seven of the nine target sites the highest correspondence rating was given to the correct transcript. The results obtained in Table 1 would occur by chance with $p < 10^{-9}$, one-tailed. The null hypothesis that there are no specific

correspondences between targets and descriptions is thus soundly rejected, as is Marks and Kammann's hypothesis that significant judging depends on artifactual cues.

Marks and Kammann also had two judges, described as "research psychologists" try to match a subset of five targets and transcripts of the Price series. This subset was picked because nothing has been published about specific target-transcript correspondences. Their judges could not match targets and transcripts with greater than chance expectancy. I extracted the same subset of targets and sites from my judge's ratings: It is highly significant for ESP functioning by the Pratt-Birge analysis ($p = 0.005$, one-tailed).

While non-psychologists might assume that psychologists are experts at judging verbal material, this is not the case. Most of us receive no training at all in this sort of procedure in the course of our education. I would hypothesize that Marks and Kammann were unable to obtain significant results in their reanalysis of the subset of the Price series because their judges either lacked the necessary discriminative skills and/or were not sufficiently motivated to use them effectively.

In summary, although Marks and Kammann have raised questions concerning the data analysis procedure in the Price series, when the series is rejudged taking their suggestions into account there is no loss of significance in the data, and ESP remains the most reasonable interpretation of the results.

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Table 1

TARGET -- TRANSCRIPT CORRESPONDENCES

DISTRIBUTION OF BLIND RATINGS (0-100) ASSIGNED TO TRANSCRIPTS FOR EACH TARGET SITE

(SUBJECT PRICE)

TRANSCRIPT NUMBER / TARGET SITE	1	2	3	4	5	6	7	8	9
RADIO TELESCOPE	100	10	0	0	0	0	0	0	0
TOLL BOOTH	0	0	0	0	1	0	0	0	0
BAYLANDS	0	0	100	0	0	0	0	15	0
ALLIED ARTS PLAZA	0	0	0	100	0	0	0	0	0
HOOVER TOWER	0	0	0	0	50	0	0	0	0
RINCONADA PARK	0	0	0	0	0	20	0	0	0
CHURCH	0	80	0	0	5	0	0	0	0
MARINA	0	0	0	0	0	15	0	100	0
DRIVE IN	0	40	0	0	0	0	0	0	80

Note: Judge's blind ratings on the Price remote-viewing series. The number in each cell represents the judge's rating, on a 0-to-100-point scale, of the degree of resemblance between each site and each transcript. The table is arranged so that cells on the diagonal are ratings for transcripts the subject generated for the corresponding target site.

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5. I wish to thank Phyllis Matson for her services as a judge.

6. The Palo Alto Drive-In Theatre site had been razed since the original experiment had been conducted. However the judge located the cement driveways from it that were still there, used them to orient herself to the general area, and filled in her perception of the site with memories from having been to that drive-in in the past.

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