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I BACKGROUND (U)

(S/SF/SS-2) SUN STREAK is an in-house DIA project for developing an operational psychoenergetics (i.e., remote viewing) capability for the Intelligence Community. Twelve GDIP billets were authorized for DIA in 1986 for this activity. Personnel from the ~~army~~ ARMY INSCOM CENTER LANE Project ~~also~~ who had been examining similar phenomenon were transferred to DIA to form the SUN STREAK core group. DIA had earlier (1985) received operational control from ~~the~~ HQ DA for this 6-person army unit.

(S/NF/SS-2) In 1985, the DIA SUN STREAK program manager (PM) prepared an Action Plan that: (1) detailed the steps necessary to transition the CENTER LANE unit to DIA; (2) identified SUN STREAK staffing and support needs; and (3) set forth key programmatic requirements for the SUN STREAK activity. The Action Plan anticipated that the time required for achieving a prototype operational capability would be approximately 3 years.

(S/NF/SS-2) Key aspects of this Action Plan, along with additional procedural information, were sent to congressional committees in 1986. The IC staff was also briefed at this time on the Action Plan and ~~an~~ on anticipated SUN STREAK operational development and data evaluation procedures.

(S/NF/SS-2) Programmatic and operational requirements identified in the Action Plan were to: (1) gain special access program (SAP)

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status (accomplished in March 1985); (2) gain human use approval (granted in March 1985); (3) set up a senior oversight and a task coordinating committee (accomplished -- though not currently activated); (4) establish tight project controls along with an automated data base management and records system (accomplished); and (5) to establish an R/D link for supporting operational capability development (accomplished via HQ SGRD funding and a DARPA MIPR).

(S/NF/SS-2) The R/D link, via SRI International, has yielded improved data evaluation procedures, has identified potential personnel selection techniques, and has contributed to training/development methods that are currently in project use. The activity at SRI has ~~undergone~~ extensive review by a 9-member peer review panel to insure that scientific rigor is maintained.

(S/NF/SS-2) The basic approach employed by SUN STREAK toward developing a prototype operational remote viewing (RV) capability is to locate personnel with potential RV capability and to develop these abilities via appropriate training/development procedures. Once satisfactory progress is noted on single-to-verify training tasks, those individuals are presented advanced training and operational simulation targets. Operational simulation targets are usually US military or scientific targets where ground truth is totally known or can be readily determined. Satisfactory performance on these tasks would qualify an individual for operational projects of interest to the intelligence community. In many of the operational projects, however, ground truth is usually not known (or is only partially

known). Consequently, complete evaluation of the viewer's data cannot be made until a later time when ground truth does become available. In the interim, reasonable estimates of the overall validity of the viewer's data can be made for many of the operational projects worked, based on what is generally known or suspected about the target. These interim evaluation results ~~would be~~ are updated whenever new ground truth is received.

(S/NF/SS-2) The operational projects pursued by SUN STREAK are approved by the program manager and are, in part, based on the program manager's familarity with IC needs and on solicitation from others within the IC who have been briefed into the SUN STREAK program.

(S/NF/SS-2) ~~The~~ Evaluation performed for this report covers all the operational and operational simulation projects (approximately 200) that have been worked by SUN STREAK personnel since 1986. ~~However~~, a few of the ~~a few~~ special operations called upon ~~also involved use~~ of consultants from the SRI talent pool. These results were ~~only a few~~ of the total projects worked, and ~~their results do not alter the~~ overall evaluations included in this ~~presented in this report.~~

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II EVALUATION (U)

1. DATA BASE (U)

(S/NF/SS-2) The SUN STREAK project maintains an extensive record of all project activity. Details include project timing, people involved (i.e., viewers, interviewers, and possibly observers), and a variety of other data considered essential for good record keeping and for evaluating project results. This data, along with project summaries, are maintained in an automated data base for convenient retrieval. Copies of project summaries are also sent to the Program Manager for his review. In addition, all raw data (i.e., sketches, viewer's notes) are maintained in a separate file that is available for review and analysis (Additional project record details are in appendix I).

(S/NF/SS-2) Evaluations conducted for this report involved a complete reexamination of the entire SUN STREAK operational data base. Many of the earlier projects had only been partially evaluated, or not evaluated at all, due to lack of suitable ground truth, at the time they were completed. [redacted] projects were reevaluated at this time to adjust for new intelligence data that has since become available.

(S/NF/SS-2) For this evaluation, the data base was subdivided into 6 main project types: (1) Scientific and

[redacted]

Technological (S/T); (2) Counterterrorist (CT); (3) Counternarcotics (CN); (4) Counterintelligence (CI); (5) Document Contents (Doc Cont); and (6) Predictive (pred). Total projects worked for these categories are shown on figure 1.

(S/NF/SS-2) Of the nearly 200 projects worked, approximately one-half cannot be evaluated since ground truth is not sufficiently known at this time. For approximately one-fourth of the projects, ground truth is totally known (or highly certain), and for the other one-fourth, ground truth is only partially known but considered sufficient for making a reasonable interim evaluation.

(S/NF/SS-2) Some of these categories can overlap. For example, prediction data is also an aspect of most of the CN, many of the CT and a few of the S/T projects. The prediction category in figure 1 refers ~~mostly~~ primarily to predictions of a political/military nature. Future analysis of predictive data will be evaluated as a separate aspect of ~~the various~~ these categories.

2. EVALUATION TECHNIQUES (U)

(S/NF/SS-2) Techniques used for evaluating the SUN STREAK operational and simulated operational data base depend on the nature of the task and type of project. S/T projects are the most difficult to evaluate. This difficulty arises from the

general complexity existing at most S/T target sites, possible ambiguous aspects of known ground truth about the target site, from the nature of the information desired, and in a few cases, possibly from the remote viewing (RV) targeting method employed. It is easier to evaluate data on S/T targets if only a single issue, such as presence or absence (of a particular system, for example) is desired, then it is to evaluate how well a viewers' detailed but possibly fragmentary description correlates with aspects of a complex site. In this case a considerable amount of subjectivity can be involved in evaluating the degree of data /target correlation.

(S/NF/SS-2) To assist in reducing overall subjectivity of evaluating complex S/T targets, the viewers' data is examined and compared to ground truth with several data categories in mind. These categories are shown in figure 2, and include geographic descriptions, large and small scale objects, large and small scale functions, personality data, and predictive data. Not all these categories may be relevant to a specific project, and in some cases may even be part of the RV targeting procedure used (e.g., when a photo of target building is used as an RV targeting reference for accessing its unknown contents).

(S/NF/SS-2) After identifying the appropriate data category, the next step is to examine the viewers' raw (or summarized) data for comparison to known or estimated ground truth and to make a best judgement on what approximate degree of data correlation actually

exists. Figure 3 defines the scale ratings used along with their approximate degree of data correlation. (Appendix II contains detailed instructions for analyst consideration when reviewing the data).

(S/NF/SS-2) Final evaluations and summaries are prepared by the program manager and his project representative (who is not part of SUN STREAK staff) in conjunction with the responsible area analyst or Intelligence Community point-of-contact. Latest intelligence data and reports on that target site are also reviewed during this process. In some cases, area analysts and the IC points-of-contact provide written appraisals to assist in the final evaluation process. These evaluations are recorded on summary forms and are maintained in the program manager's files.

(S/NF/SS-2) An example of an S/T target evaluation is in figure 4. In this case the target site was [redacted] The project was completed in June 1987 and involved four viewers (2 proven and 2 novice). In this example, the bracket ( ) indicates a best estimate was made since ground truth is not yet totally known. A " " dash means that data category was not present in the viewers' data. One of the viewers (#101) attempted to describe the site 6 months in the future. In this case, [redacted] Some of the data categories (i.e., geographic features, large scale objects) are not important since

SG1A SG1A SG1C SG1C SG1B SG1B

they are known. However, they are included in the data evaluation for this project since they tend to provide confidence that other (as yet unknown) details in the data may be correct.

(S/NF/SS-2) A more sophisticated analysis methodology has been recently developed by SRI for use in evaluating complex projects. This methods' main advantage is that it allows quantified estimates to be made for each and every data element with respect to both actual target existence and importance. This technique is currently being examined for use in the SUN STREAK program and has been applied to a few projects. However, it is a labor intensive technique that will probably be used only for select high interest projects in the future.

(S/NF/SS-2) Most of the other SUN STREAK project types do not require a complex analysis methodology. For example, due to the nature of what type of data is desired (and availability of collection assets that can be cued), most of the CT, CN, or predictive projects where ground truth is known can be evaluated in a "black or white" manner. The data, even if not acted upon, either correlated with the subsequent location of the fugitive or ship, or it did not. The event predicted did, or did not, happen. Thus, overall results for many of these projects are simply a matter of counting hits and misses. Hit ratios or percentages of hits/misses form the basis of overall data correlations made in this report for these type of projects. Additional data analysis is, of course, performed to determine how

close to ground truth the data actually was. This may be of value in understanding how to conduct future projects of this nature. ~~search or prediction projects.~~

3. EVALUATION RESULTS (U)

(S/NF/SS-3) Overall data correlations for all SUN STREAK operational and operational simulation projects performed since 1986 are shown in figure 5. These results were obtained by averaging the data entered on the summary data evaluation sheets for each project primarily for two data categories (i.e. large scale and small scale (object and function)). The top lines on the bar charts reflect data averages obtained from the proven or experienced viewers. For some projects, especially some of the CN and CI projects, the distinction between large scale and small scale is not clearcut, furthermore, ~~and~~ this differentiation may not be too important. For the predictive category and most of the CN ~~data~~ projects, data correlations were based mainly on a hit/miss calculation.

(S/NF/SS-3) Figure 5 indicates that, on the average, data from proven SUN STREAK viewers for S/T projects will tend to have a 20 percent to 30 percent correlation with ground truth for small scale targets, and a 30 percent to 50 percent correlation with ground truth for large scale target features. Likewise, for CT or CN projects, about 20 percent to 50 percent of SUN STREAK data would be expected to correlate with ground truth. Caution must be exercised in interpreting this data, however, since the data base with ~~many~~ known ground truth is quite low in these categories. ~~Even though the data~~

~~base is also small~~ For CI and Document Reading projects, SUN STREAK data shows a 40 percent to 60 percent correlation level with ground truth; ~~for these projects.~~ however, the size of the data base is also quite low. The Document Reading projects were, however, carefully isolated and in a known or designated location. Predictive data of the complex event type (e.g., political/military situations) ~~or long term~~ shows a very low data correlation (i.e., reliability) of about 10 percent or less.

(S/NF/SS-3) If all SUN STREAK projects are averaged together, as shown in figure 6, data correlation would range from about 20 percent for small scale aspects to about 40 percent for large scale aspects. While "averaging" such data may indicate overall results in the long run, such averaging tends to washout those results that have singular high merit, such as the identification several months in advance of a specific area in the U.S. where a fugitive was later found. In this case, SUN STREAK data was not acted upon; fortunately, the fugitive was nevertheless abducted in this general area due to ~~through other means.~~ the alertness of a local law enforcement official.

(S/NF/SS-3) Another way of considering overall SUN STREAK project data correlation is to consider only the proven viewers. This data is shown in figure 7 for times when these experienced viewers received a 2 or 2+ in the numerical ratings assigned to their data correlations. Only two types of data are presented here; S/T and Personality data as obtained from the various CT, CN and CI projects. For S/T projects, proven viewers would be expected to receive a high (i.e. approx. 70 percent) data correlation rating on

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about 20 percent of the S/T projects attempted. For personality projects data (i.e., background, state-of-the-health, specific activities), around 50 percent to 60 percent of the projects would yield high results. Essentially, this chart indicates certain strengths/weaknesses of the present SUN STREAK staff and suggests that more projects ~~involved in~~ directed at foreign or CI target personalities are warranted.

III FINDINGS (U)

(S/NF/SS-3) The overall data correlations provided in the previous section, although in some instances, a low overall average, are unique enough to warrant further attention and continued SUN STREAK activity. Even in the lowest reliability case (i.e., predictive), identification of even one important future event out of ten could in fact be highly significant in cost or life saving. The averages do not do justice for the single unique cases that cost little to act upon, as in the case of the fugitive location cited in section 3.

(S/NF/SS-3) Specific findings that resulted from in-depth review of the entire SUN STREAK data base include:

o [redacted] individuals performance correlates with project type. This observation has already assisted in better task/person matching, and overall data correlations would be expected to improve in the future.

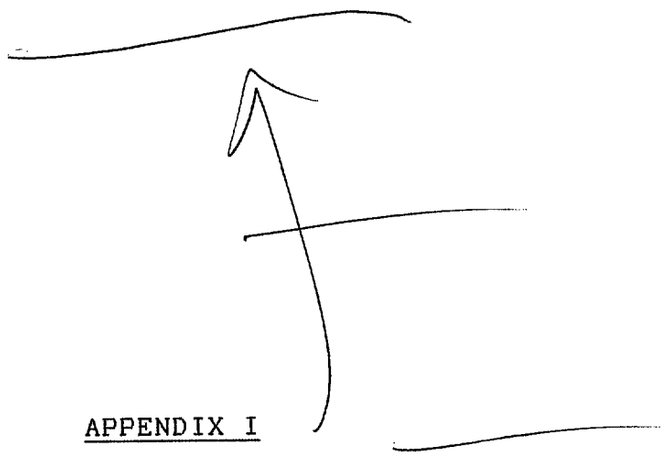
o SUN STREAK has a distinct potential for direct contribution to certain CI, CN and CT cases, as born out by specific instances over the past two years.

o Predictive data is promising under certain conditions, such as near term events or situations that do not involve complex interactions.

o S/T data, though having promise for select tasks, does not yield parametric data.

o SUN STREAK viewers work well under operational stress. It may be that an environment of operational stress generates a clear and immediate need, and this situation seems to foster conditions that enables RV to function better.

o Obtaining highly reliable RV data and then applying it to real operational projects is difficult. However, it is evident that continued work with RV data does result in greater insight on how best to use RV data and on how best to utilize RV talent available. Thus, it is anticipated that RV data utility will increase as experience of the SUN STREAK team grows.



APPENDIX I

PROJECT RECORD DETAILS

APPENDIX II

DETAILED INSTRUCTIONS TO ANALYST/DATA REVIEWERS