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A FIELD STUDY OF THE 'FRIENDLY POLYGRAPHIST' CONCEPT

By

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ABSTRACT

Polygraph tests conducted for defense attorneys have been criticized as having a high rate of false negatives due to a purported lack of fear of detection by the client polygraphed. It has been held that a defense polygraphist may be unduly influenced to find the defendant examinee truthful to insure repeated business (Orne 1975). The concept of the "friendly polygraphist" appears to have been accepted by many members of the psychological and legal community. This study was designed to examine that concept. From the total number of cases examined in this study, 39 were conducted for defense attorneys under attorney-client privilege, and 34 of those were scored deceptive, and subsequently confirmed. Furthermore, defense attorney cases showed a mean chart score of -9.38 compared with police cases which showed a mean chart score of -9.10, which suggests similar states of autonomic arousal. Another group, commercial cases which were not tested under privilege, showed a mean chart score of -9.90. Because these guilty cases have similar scores, the idea that defense subjects lack the fear of arousal found in other populations is without merit, leaving the "friendly polygraphist" concept without support.

Background

Recently, two U.S. Army lawyers (Whitman and Cargill) discussed the concept of the "Friendly Polygraphist" in articles about the Court of Military Appeals' precedent setting decision United States v. Gipson which allows both the Defense and Prosecution to lay a foundation for admission of the results of a polygraph examination in military courts. The Gipson decision dealt a death blow to the Frye v. United States standard for admissibility of polygraph evidence in Military Courts. Whitman and Cargill discussed the many conditions which must be met before the results of a polygraph test may be admitted into evidence. Whitman added a possibility that a defendant who attempts to introduce the results of a private polygraph test may be required by the judge to submit to a polygraph examination conducted for the Prosecution.

Dr. Matte and Dr. Reuss have contributed articles to Polygraph in the past. Dr. Matte is a member of the APA in private practice in Buffalo. Dr. Reuss is a professor of biology and an instructor in anatomy and physiology at the State University at Buffalo.

The common and consistent reasoning for this requirement is that "ex-parte examinations may be less reliable, because the ability to discard unfavorable test results eliminates or reduces an essential basis for the reliability of such results - the nervousness created by fear of detection." (Cargill 1989 at 35) Whitman states "The theory upon which the polygraph is based requires the examinee to be fearful when faced with the possibility of being caught in a lie. The military judge could determine that the accused had nothing to fear in the private examination, and therefore the reliability of the results would be questionable."

Both Chief Judge Cox in his lead opinion and Chief Judge Everett in his concurring opinion articulate their concern for "maximizing" the "fear of detection" by having only one polygraph test conducted under agreement and stipulation where the results are available to all parties.

Cargill states "Can there by any doubt that an examinee's knowledge that the test results will only be admissible if it indicates that the examinee is telling the truth diminishes the fear of detection and thereby undermines the basis for validity of his test result? Surely not ... The most we can say is that because the majority in Gipson agreed that maximizing fear of detection was fundamental to the validity of the test result, that ought to be the overriding concern for trial practitioners and military judges."

Cargill suggests that trial counsels oppose any Defense effort to introduce a polygraph test results unless the examinee knew that the test result was going to be admitted regardless of the outcome.

Both authors, especially Cargill, and the Gipson Court firmly believe that defense polygraph examinations are less reliable than prosecution polygraph tests because the former allegedly lack adequate "Fear of Detection." Neither Whitman, Cargill, nor the Gipson Court offer a scientific basis for their assertion that the "Fear of Detection" is critically diminished in polygraph examinations administered for defense attorneys.

The Military Court is not alone in its acceptance of the "Friendly Polygraphist" concept. In People v. Adams (1975), the California Court of Appeals uncritically adopted Dr. Martin Orne's theory of the "Friendly Polygraphist" and denied the appellant's motion to introduce the polygraph evidence based on the fact that the test was administered by a "Friendly Polygraphist" even though the Court was satisfied that the test had been properly administered. In a motion for a new trial, the appellant submitted an affidavit by Dr. David Raskin, along with Raskin's resume and his study, Validity and Reliability of Detection of Deception, which refutes the "Friendly Polygraphist" concept. However, the Court denied appellant's motion for a new trial. In assessing the validity of the "Friendly Polygraphist" concept, it should be noted that Orne cites no research to support his theory. (Orne 1975)

This sub-study conducted during the Validation of the Polygraph Quadri-Zone Comparison Technique (Matte & Reuss 1989) addresses this issue, now commonly known as the "Friendly Polygraphist" concept.

Procedure

All polygraph specific-issue tests conducted with the Quadri-Zone Comparison Technique at the Buffalo Police Department from January 1985 through December 1987 were reviewed. There were 113 cases of which 32 were later solved by confessions, investigations, convictions, and combinations of these methods. In addition, all specific-issue tests conducted with the Quadri-Zone Comparison Technique at Matte Polygraph Service, Inc., from January 1986 through April 1987 were reviewed. There were 145 cases of which 90 were subsequently solved by one or more of the previously mentioned methods. Thus, 122 of the total of 258 available cases (47%) were subsequently solved, providing a base of confirmed cases for study. (For more detail regarding ground truth data and explanation of Quadri-Zone Technique, see Validation Study of Quadri-Zone Technique in Polygraph (1989), 18(4).

Of the 32 confirmed polygraph cases from the Buffalo Police Department, a total of 13 cases were DI (Deception Indicated). Of the 90 confirmed polygraph cases from Matte Polygraph Service; a total of 39 were tests conducted for defense attorneys. Three attorney cases were found truthful, two were inconclusive, and 34 were found deceptive, confirmed by confession. Of the 90 confirmed polygraph cases, 15 of the remaining commercial cases were DI. Thus three separate samples of confirmed guilty cases were evaluated and compared: Police, defense attorneys, and commercial.

All polygraph charts of confirmed guilty cases in each of the three categories were reviewed and the total score of the charts in each case was divided by the number of charts to obtain a mean score per chart. This procedure was first conducted without calculating the scores from zone four. When the scores from zone four were added, comparison could be made of the mean scores of tests conducted without the use of zone four, and with the use of zone four. Tests conducted without the use of zone four would essentially reflect the Backster Zone Comparison Technique, and with zone four, the Quadi-Zone Comparison Technique.

The three polygraphists who participated in this research were James Allan Matte, Ph.D., Detective Thomas E. Armitage, Polygraphist, Buffalo Police Department, and Detective Ciro F. LaCorte, Polygraphist, Amherst Police Department.

Of the 13 confirmed Guilty cases conducted at the Buffalo Police Department, Detective Armitage conducted 12 of those polygraph tests, and Detective LaCorte assisted Detective Armitage and conducted one of them. Dr. Matte conducted the 34 confirmed defense attorney cases and the 15 commercial cases used in this study.

The polygraph instrument used at Matte Polygraph Service in the year 1986-1987 was a Stoelting electronic four-pen, double pneumograph, Ultra-Scribe, and the polygraph instrument used at the Buffalo Police Department in the year 1985-1987 was a Stoelting electronic four-pen, double pneumograph Polyscribe.

Results

Excluding zone four (Backster Technique), the mean scores for the 13 guilty police cases is -6.63; the 34 guilty defense attorney cases is -7.35; the 15 guilty commercial cases is -7.85. Including zone four (Quadri-Zone Technique), the mean scores for the guilty police cases is -9.10; the guilty defense attorney cases is -9.38; the guilty commercial cases is -9.90. (Tables 1, 2, 3)

TABLE 1
DEFENSE ATTORNEY (MATTE) CASES

A Comparison of Mean Scores without Zone 4 and with Zone 4 for the Guilty in Defense Attorney Cases.

CASE NUMBER		NUMBER CHARTS	TOTAL SCORE Without Zone 4	MEAN SCORE	TOTAL SCORE With Zone 4	MEAN SCORE
87	M53	4	-41	-10.3	-45	-11.3
88	M54A	3	-17	- 5.7	-22	- 7.3
89	M54B	3	-23	- 7.7	-30	-10.0
90	M54C	2	-17	- 8.5	-20	-10.0
91	M55A	4	-15	- 3.8	-27	- 6.8
92	M55B	4	-21	- 5.3	-31	- 7.8
93	M56	3	-23	- 7.7	-32	-10.7
94	M57A	3	-16	- 5.3	-20	- 6.7
95	M57B	2	-22	-11.0	-27	-13.5
96	M58A	2	-18	- 9.0	-13	- 6.5
98	M59A	3	-22	- 7.3	-30	-10.0
99	M59B	2	-20	-10.0	-22	-11.0
100	M60	3	-19	- 6.3	-22	- 7.3
101	M61A	3	-13	- 4.3	-19	- 6.3
102	M61B	2	- 9	- 4.5	-13	- 6.5
103	M62A	2	-18	- 9.0	-23	-11.5
104	M62B	2	-14	- 7.0	-21	-10.5
105	M63A	2	-18	- 9.0	-21	-10.5
106	M63B	2	-16	- 8.0	-23	-11.5
107	M64A	3	-23	- 7.7	-31	-10.3
108	M64B	2	-12	- 6.0	-18	- 9.0
109	M65A	3	-12	- 4.0	-19	- 6.3
110	M65B	3	-22	- 7.3	-25	- 8.3
111	M66	3	-23	- 7.7	-28	- 9.3
112	M67A	3	-28	- 9.3	-35	-11.7
113	M67B	3	-17	- 5.7	-30	-10.0
114	M68A	3	-30	-10.0	-34	-11.3
115	M68B	3	-19	- 6.3	-24	- 8.0
117	M69B	3	-16	- 5.3	-23	- 7.7
118	M70A	4	-34	- 8.5	-44	-10.0
119	M70B	3	-25	- 8.3	-30	-10.0
120	M71A	3	-17	- 5.7	-21	- 7.0
121	M71B	2	-19	- 9.5	-26	-13.0
122	M71C	2	-18	- 9.0	-23	-11.5

TABLE 1: Defense Attorney (Matte) Cases (cont):

Number of Cases	34
Total of Mean Scores without Zone 4	-250.0
Mean Chart Score without Zone 4	- 7.35
Total of Mean Scores with Zone 4	-319.1
Mean Chart Score with Zone 4	- 9.38

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TABLE 2
POLICE (ARMITAGE) CASES

A Comparison of Mean Scores without Zone 4 and with Zone 4 for the Guilty in Police cases.

CASE NUMBER		NUMBER CHARTS	TOTAL SCORE Without Zone 4	MEAN SCORE	TOTAL SCORE With Zone 4	MEAN SCORE
1	A1A	3	-30	-10.0	-35	-11.7
5	A5A2	3	-12	- 4.0	-15	- 5.0
7	L7A2	3	-34	-11.3	-38	-12.7
10	A10A	3	-14	- 4.7	-15	- 5.0
11	A10B	2	-20	-10.0	-18	- 9.0
14	A12A	3	-25	- 8.3	-32	-10.7
15	A13A	2	-18	- 9.0	-31	-15.5
16	A14A	3	-13	- 4.3	-18	- 6.0
20	A17	2	-15	- 7.5	-18	- 9.0
28	A23B	3	-12	- 4.0	-15	- 5.0
30	A25	2	-16	- 8.0	-21	-10.5
31	A26A	3	-18	- 6.0	-20	- 6.7
32	A26B	2	-21	-10.5	-23	-11.5

NUMBER OF CASES	13
TOTAL OF MEAN SCORES without Zone 4	- 86.2
MEAN CHART SCORE without Zone 4	- 6.63
TOTAL OF MEAN SCORES with Zone 4	-118.3
MEAN CHART SCORE with Zone 4	- 9.1

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TABLE 3
COMMERCIAL (MATTE) CASES

A Comparison of Mean Scores without Zone 4 and with Zone 4 for the Guilty
for the Commercial (Matte) Cases

CASE NUMBER		NUMBER CHARTS	TOTAL SCORE Without Zone 4	MEAN SCORE	TOTAL SCORE With Zone 4	MEAN SCORE
33	M1	4	-15	- 3.8	-20	- 5.0
34	M2	4	-25	- 6.3	-28	- 7.0
40	M8	2	-23	-11.5	-26	-13.0
41	M9	2	-18	- 9.0	-24	-12.0
42	M10	2	-15	- 7.5	-15	- 7.5
43	M11	3	-32	-10.7	-45	-15.0
46	M13A	3	-20	- 6.7	-25	- 8.3
47	M13B	3	-32	-10.7	-36	-12.0
57	M23	3	-32	-10.7	-37	-12.3
60	M26	4	-28	- 7.0	-34	- 8.5
61	M27	3	-20	- 6.7	-29	- 9.7
72	M38	4	-19	- 4.8	-30	- 7.5
73	M39	2	-16	- 8.0	-22	-11.0
75	M41	3	-24	- 9.0	-33	-11.0
77	M43	3	-19	- 6.3	-26	- 8.7

NUMBER OF CASES	15
TOTAL OF MEAN SCORES without Zone 4	-117.7
MEAN CHART SCORE without Zone 4	- 7.85
TOTAL of MEAN SCORES with Zone 4	-148.5
MEAN CHART SCORE with Zone 4	- 9.90

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Discussion

The data reflected in the results of this study clearly show that the mean scores for all of these guilty cases are similar, especially when the Quadri-Zone technique is used, and the scores are well beyond the required threshold for making the deceptive decisions. Since all these means are close, there is no reason to believe that cases confirmed guilty were treated differently because they were defense attorney, police, or commercial cases. The polygraph procedure and scoring process proved to be quite consistent for all three types of cases. This data certainly dispels the myth (Lykken 1980 at 223-224) of the "Friendly Polygraphist" who is alleged to be unduly influenced to find the defendant examinee truthful in order to get repeat business, and the unfounded assertions of Orne, Whitman and Cargill that since the defendant examinee is protected by the "privileged

communication" umbrella that prohibits the polygraphist from divulging unfavorable results, the defendant examinee should have no "Fear of Detection." The fear seems to be about the same in each type of case. The "Fear of detection" might be thought to be more intense for the police cases because of the threat of imprisonment if found deceptive. Our data does not support that observation. The lack of differential scores refutes the concept that the "fear of detection" is different for any of the three types of cases; defense attorney, police, or commercial.

It should also be noted that of the 39 defense attorney cases 34 (87.2%) were diagnosed and confirmed as guilty and 3 (7.7%) were diagnosed as truthful.

Interestingly, a study conducted by Drs. David C. Raskin, Gordon H. Barland, and John A. Podlesny (1977) tested Dr. Martin T. Orne's hypothesis that polygraph examinations conducted on behalf of defense attorneys fail to meet essential motivational requirements, i.e., "Fear of Detection." Orne speculated that an examinee tested by a "Friendly Polygraphist" hired by a defense attorney would be treated differently than during an "arms length" law enforcement test. Orne concluded that the defense test circumstance would make the guilty examinee less detectable.

In the Raskin study, three sets of data from one source were obtained in order to evaluate Orne's hypothesis. The first sample showed that defense cases produced 78% truthful, 20% deceptive, and 2% inconclusive outcomes. The law enforcement cases produced 76% truthful, 20% deceptive, and 5% inconclusive outcomes. Contrary to the "Friendly Polygraphist" hypothesis, there was no difference in the frequency of truthful outcomes for defense and law enforcement examinations conducted by the same polygraphist. The second analysis produced mean numerical scores of -4.7 for defense cases and -2.0 for law enforcement and employer cases. Although the difference between those mean scores was not statistically significant, it was in the opposite direction from that predicted by the "Friendly Polygraphist" hypothesis. Another sample of numerical scores produced mean scores of -10.4 for defense cases and -0.7 for law enforcement cases. The difference between those mean scores was statistically significant and also in the opposite direction from that predicted by the "Friendly Polygraphist" hypothesis. Thus the three samples of data obtained in Raskin's study not only failed to produce any evidence to support Orne's hypothesis, but some of the results indicated effects which were totally contrary to Orne's speculation. Raskin opined that the findings obtained with three different samples of criminal cases are contrary to the "Friendly Polygraphist" concept and there appears to be no increased risk of false negatives under such circumstances.

The especially close mean scores obtained in this study between the Buffalo Police Department's guilty cases (-9110), the guilty defense attorney cases (-9.38), and the guilty commercial cases (-9.90) when the Quadri-Zone Comparison Technique was used attests to the value of zone four and its uniformly objective testing procedure. The average zone four correction was about the same for each type of case, showing that the "Fear of Detection" factor as measured in the Zone Four Technique was very similar for the different types of cases, and does not follow the "a priore) judgments discussed by Whitman, Cargill and Orne, but is based on empirical

evidence. The scientific study of confirmed cases should carry more judicial weight than judgments based on an unsupported opinion, even when offered by a scientist.

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BLIND ANALYSIS OF SKIN CONDUCTANCE RESPONSE (SCR) RECORDINGS FROM A NUMBERS TEST

By

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Abstract

Seventy subjects each participated in a numbers test evaluated by 7 experienced polygraphers and 4 inexperienced raters. These evaluators provided decisions about the point of deception in these tests based solely upon SCR data obtained from the three question/answer sequences which comprised each subject examination. The accuracy rate for detection of deception for both groups was approximately 80%. This rate of accuracy was found to be highly significant ($p < 0.001$) relative to chance (17%). No statistically significant differences were found between the accuracy rate of the experienced and naive group of evaluators. SCR data contained in the random sequence appears to be more useful to evaluators than similar data contained in the other two sequences whose order was known by study subjects. When given the opportunity to choose a number from a restricted sequence of numbers, these subjects did so with demonstrated bias, a bias which had no statistically evident influence on evaluator accuracy rates.

Introduction

Numbers tests have been routinely used by polygraphers for many years and are most commonly associated with the pre-test phase of a polygraphic examination. They are often used as a form of subject stimulation prior to a substantive examination and as such are often referred to as "stim tests." Although a variety of "stim tests" exist (see September 1978 issue Polygraph), the basic format of these examinations involves a subject selecting a number from a sequence or a numbered card from a group of cards and then denying that selection when asked about it. The supposed stimulation is derived from the subject being suitably impressed with the examiners ability to identify the selected number based solely upon alternations in various aspects of the subject's physiology.

Several potential purposes have been suggested for using the "stim test" in conjunction with polygraphic field tests: (1) to install confidence in the innocent/truthful subject (Abrams, 1977; Fingerhut, 1978; Lovvron, 1978; and Matte, 1980); (2) to instill a heightened level of fear of detection in the guilty/deceptive subject (Abrams, 1977; Lovvron, 1978, and Matte, 1980); (3) to disclose a guilty subject's pattern of physiological response accompanying deception prior to the substantive examination (Fingerhut, 1978; Jayne, 1981); and (4) to allow final instrument adjustments (Matte, 1980).

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In addition to the possible benefits of stimulation prior to a field examination, numbers tests may serve as a useful tool for a variety of purposes in laboratory studies. The numbers test, in which a subject is asked questions in a sequence known to him, although less anxiogenic in nature, is not unlike a searching peak of tension test. If the sequence of questions is presented in an order unknown to the subject, the test is similar in format to a guilty knowledge or concealed information test. Whether the sequence is known to the subject or not, the numbers test, as generally employed, is a form of directed lie test. Because of its similarity in form to other currently used forms of polygraphic examination and if shown to provide a sufficient degree of detection rate accuracy, a numbers test might serve as a suitable vehicle for generating and detecting deception in laboratory studies. This test might well be suitable for examining various dependent variable effects (e.g., pharmacological countermeasures or the utilization of a new index for measuring adrenergic activation) on the detection of deception.

Several laboratory studies have reported the accuracy of numbers tests (e.g., Van Buskirk, 1954; Gustafson, 1963; Kugelmas, 1968; Horowitz, 1986). Using a variety of combinations of format and monitored physiology, these studies found accuracy rates ranging from approximately 30% to 75%. In the presently reported study, only skin conductance response (SCR) data was available to chart evaluators.

Evaluator decisions of the point of deception in these numbers test sequences has allowed for the analysis of several issues related to this test format: (1) detection accuracy, (2) inter-evaluator reliability, (3) the relative usefulness of sequences known and unknown to the subject, and (4) the frequency of numbers selected by subjects from a restricted sequence and the effects of that frequency on evaluator accuracy. The chart evaluators for this study were both experienced polygraph examiners and individuals with no experience in administering or evaluating polygraphic examinations. Determination of individual accuracy rates and whether any statistically significant difference in accuracy rate existed between these two subgroups of evaluators was also addressed in the data analysis.

Method

Subjects

The subject population consisted of 70 male Army trainees at Fort McClellan, Alabama. They ranged in age from 17 to 20 years. Having met minimum Army health prerequisites for participation in rigorous physical activity, these subjects were deemed to be in good to excellent physical condition.

Apparatus

All polygraphic data was collected in a sound attenuated, electrically-shielded laboratory at the DoD Polygraph Institute. Skin Conductance Response (SCR) data was obtained via a Coulbourn Instruments physiological recording system coupled with a 80286 microprocessor-based personal computer. The sampling rate for the SC channel (necessitated by minimum

requirements for other monitored channels containing cardiovascular phenomena) with 500 Hz, allowing for a resolution of 2msec.

Multi-Purpose disposable-adhesive gel silver/silver chloride electrodes were used as transducers in obtaining skin conductance (SC) data. Prior to attachment, the sites of electrode attachment were prepared by cleaning the surface with soap and warm water followed by minor abrasion of the skin surface with a pencil eraser. Skin conductance (SC) was recorded with electrodes placed on the thenar and hypothenar sites of the left palm. Data were obtained via a Coulbourn S71-22 skin conductance coupler which applied an AC potential of 0.5V, with SC being recorded with an AC filter in order to record SCRs. Subjects received instructions and task-related information on a Marantz cassette recorder.

Procedure

Prior to any polygraphic examination, each subject (1) was generally made aware of the format and the purpose of the research, (2) completed a brief questionnaire providing demographic information, and (3) signed a consent form.

The numbers tests as described in this report generally involved each subject selecting one of six numbers and being administered a polygraph examination employing three sequences of questions related to the chosen number (a forward and reverse sequence in which the order of the questions was known to the subject and a random sequence in which the order was not known). More specifically, each subject was asked to choose a number between 3 and 8, inclusive. The subject was further instructed to concentrate on that number, to write the number on a provided pad of paper, and to display the number to a designated research confederate without displaying it to the polygraph operator. The subject was told that a recorder would ask questions concerning the number that he had written on the pad.

During the polygraph examination, the subject sat facing the research confederate and was instructed by the polygraph examiner to maintain eye contact with this person as he answered each question in the examination sequence. The purpose of this was to make the subject focus on the exact point at which he would be telling a lie. Telling a lie (denying having chosen the recorded number) may result in more anxiety if the person is forced to confront someone who knows not only that he is telling a lie but at what point in a sequence of questions and answers that he is telling this lie.

After the transducers were connected, the subject was examined via a forward, reverse, and a random sequence of questions which related to the number that the subject had chosen. Beginning with the forward sequence, the subject was asked via a tape recording, "Did you write down number 1?", "Did you write down number 2?", and so forth through number 10. These questions were separated in time by 15 seconds and were answered "no" each time by the subject. After completing the forward sequence (1 to 10), the subject rested briefly, and then was examined via the reverse sequence (10 to 1). This was followed by a second rest period and a third sequence of numbers presented in a predetermined random order. Thus, in each sequence

the subject would have truthfully denied having written down 9 of the numbers, and would have lied once when he denied having written the number which he had selected. The questions related to the numbers 1, 2, 9, and 10 in each sequence served as controls for any SCRs which might occur as a function of orienting responses at the beginning of a sequence or as a result of emotional and physiological response related to the completion of a sequence.

Following the completion of the 210 charts (3 sequences per subject for 70 subjects), a key was prepared containing the chosen number for each subject. Additionally, hard copies of the computer-stored SC data were made for each of the sequences. Each hard copy chart contained (in addition to SCR information) external event markers indicating the time of occurrence of the asking and the identity (i.e., one of the numbers between 1 and 10) of each question in the sequence. These 210 charts were given sequentially to eleven evaluators for their analysis. These evaluators consisted of (1) seven experienced polygraph examiners who were currently serving as instructors at the Department of Defense Polygraph Institute, and (2) four other employees at the same facility who were not and had never been involved in administering or evaluating polygraph examinations. No instructions related to a suggested strategy for chart interpretation was offered any of the evaluators. Based upon the analog data obtained from the three sequences, the eleven evaluators were asked for their opinion or their "call" as to the identity of the subject's recorded number based on: (1) the results of the forward sequence; (2) the results of the reverse sequence; (3) the results of the random sequence; and (4) the combined results of all three sequences. The evaluators were asked for both their first and second choice for this overall decision based on the combined information contained in the three charts. In order to stimulate evaluator interest and effort, a small cash prize and dinner at a local restaurant was offered to the evaluator having the highest percentage number of correct first decisions in the overall decision category.

Data Analysis

Three commercially available computer software packages were utilized in the acquisition and post-acquisition analysis of the SC data: Codas and Advanced Codas, produced by DATAQ Instrument, Inc., Dayton, Ohio; and SPSS/PC+, produced by SPSS, Inc., Chicago, Illinois. Statistical Analysis involved the calculation of various basic descriptive indices (e.g., frequency of occurrence) as well as performance of chi square and binomial probability tests.

Results

As previously mentioned, the analysis of the raw data collected from seventy experimental sessions falls into the following general categories: 1) individual chart and overall decision accuracy; 2) inter-rater reliability; 3) a comparison of the utility of sequences whose order is known to the subject versus those in which the order of questions is unpredictable; and 4) an analysis of whether there exists subject bias in selecting a number from a restricted sequence and whether this translates into any evaluator bias which would artificially increase or decrease evaluator accuracy.

Table 1 contains the percentage of correct decisions for both experienced and inexperienced evaluators in terms of the various evaluations that they were asked to make. Of note is that accuracy was greater for both groups based upon random sequence (chart three) analysis than for either forward or reverse sequences (charts one or two). The accuracy of the overall decision (1st choice only) was found to be 79.4% for all eleven evaluators with chi square analysis indicating no significant difference in the accuracy rates of the two subgroups of evaluators. The accuracy of the overall decision (based upon 1st and 2nd choice) was found to be 88.9% with again no significant differences found in accuracy rates between subgroups.

Table I

Percentage of Correct Evaluator Decisions

Evaluator Status	CHT1AC	CHT2AC	CHT3AC	DEC1AC	DEC12AC
Naive (n = 4)	**65.9%** (182/276)	**55.7%** (156/280)	**79.3%** (222/280)	**80.4%** (225/280)	**88.4%** (248/280)
Experienced (n = 7)	**67.4%** (279/414)	**59.9%** (251/419)	**78.1%** (326/418)	**78.8%** (386/490)	**89.1%** (437/490)
Total	**66.8%** (461/690)	**58.2%** (407/699)	**78.5%** (548/698)	**79.4%** (611/770)	**88.9%** (685/770)

CHT1AC = % of decisions which are correct regarding point of deception based on information contained in chart one (forward sequence)

CHT2AC = % of decisions which are correct regarding point of deception based on information contained in chart two (reverse sequence)

CHT3AC = % of decisions which are correct regarding point of deception based on information contained in chart three (random sequence)

DEC1AC = % of 1st choice decisions which are correct regarding point of deception based on information in all three sequences

DEC12AC = % of the total of either 1st or 2nd choice decisions which are correct regarding the point of deception based on information in all three sequences

The laws of probability indicate that, with a one out of six probability of any evaluator guessing a subject's chosen number on his first choice, the evaluators would be able to correctly identify by random chance the chosen number in 1 of every 6 attempts or in approximately 12 out of every 70 subject evaluations. The overall observed proportion of correct decisions (79.4%) was found to be highly significant using a binomial analysis ($p < 0.001$). The probability of guessing the chosen number on either the first or second choice is one out of three, suggesting that evaluators would be expected to pick the chosen number in approximately 33.3% of subject evaluations. The binomial test indicated that the observed proportion of correct decisions (88.9%) offered on first or second choice was highly significant ($p < 0.001$).

TABLE II

Binomial Probabilities for Evaluator Decisions

Number of Correct Evaluator Decisions Per Subject	Binomial Probability for Corresponding Number of Correct Evaluator Decisions
0	0.087
1	0.280
2	0.372
3	0.179
4	0.063
5	0.016
6	0.003
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000

A semi-quantitative approach was taken in evaluating correlation between evaluator decisions or the reliability between their calls. For any given subject with eleven evaluators making a call as to the subject's selected number, there exist twelve possibilities for number of correct evaluator decisions, namely, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, or 11 correct decisions. The probability of each of these occurrences may be calculated as a function of the binomial distribution. Table 2 contains the predicted probability of each of these occurrences assuming each evaluator has a 0.167 probability of randomly choosing a subject's selected number.

The expected frequency of occurrence of 0 correct evaluator decision, 1 correct evaluator decision, and so forth through 11 correct evaluator decisions for seventy subjects is simply the product of these binomial probabilities times 70. Figure 1 is a histogram of the expected frequencies for the

number of correct evaluator decisions when 11 evaluators make a call for 70 subjects. Figure 2 is a histogram of the observed frequencies for the number of correct evaluator decisions for those 11 evaluators who made decisions regarding the point of deception for the 70 subjects in this study.

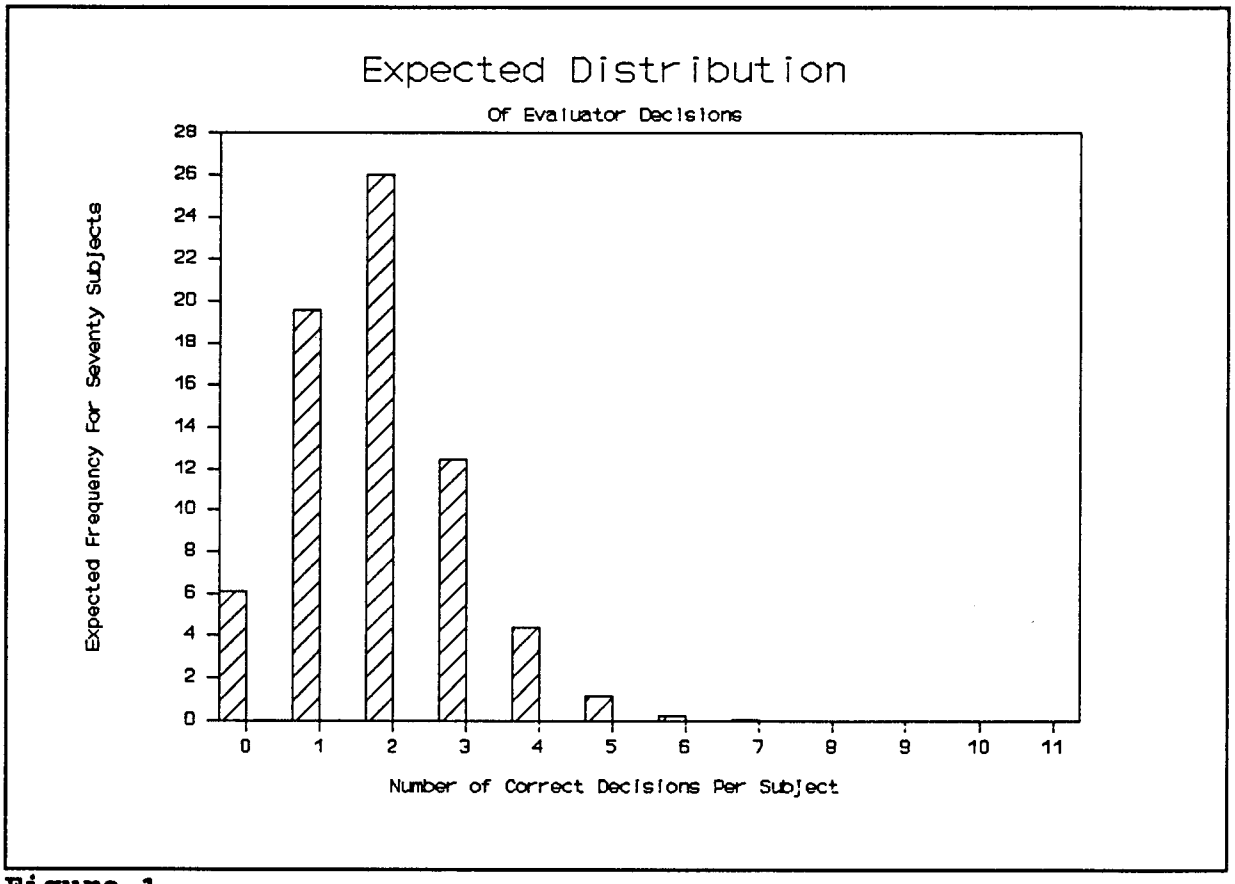

Figure 1

Several things can be seen from an analysis of Table 2 and a comparison of Figure 1 and Figure 2. Clearly the pattern of distribution of number of correct decisions is different for "expected" versus "observed" figures. From Figure 1, it can be seen that for 70 evaluations the median expected number of correct evaluator decisions would be 2 out of eleven. The analogous median value from Figure 2 is 10 out of eleven evaluators. Binomial probability would dictate that in 70 subject evaluations by 11 evaluators (Figure 1) there would be no instances of 6, 7, 8, 9, 10, or 11 out of 11 evaluators having correct responses. As previously noted, accuracy by evaluators in terms of their overall first choice of selected number was approximately 80%. In view of these accuracy results it would not be unreasonable to expect an observed frequency with a roughly normal distribution with a median of value of 8 or 9 out of 11 evaluators (approximating the 80%

median accuracy seen) being correct in their decisions. Figure 2 (clearly not a normal distribution) indicates that out of 70 subject evaluations 44 were comprised of either 10 or 11 evaluators being correct in their calls with a median value of 10 of eleven (91%) being correct. This result indicates that reliability of analysis may even been higher than this relatively high level of accuracy would suggest, i.e., that evaluators are reliably correct on a large proportion of subjects and are somewhat less but still reliably incorrect on a relatively small number of other subjects. It may be that evaluators are reliably incorrect on this small minority of study subjects simply due to the fact that these subjects are less electrodermally active than the majority of study subjects.

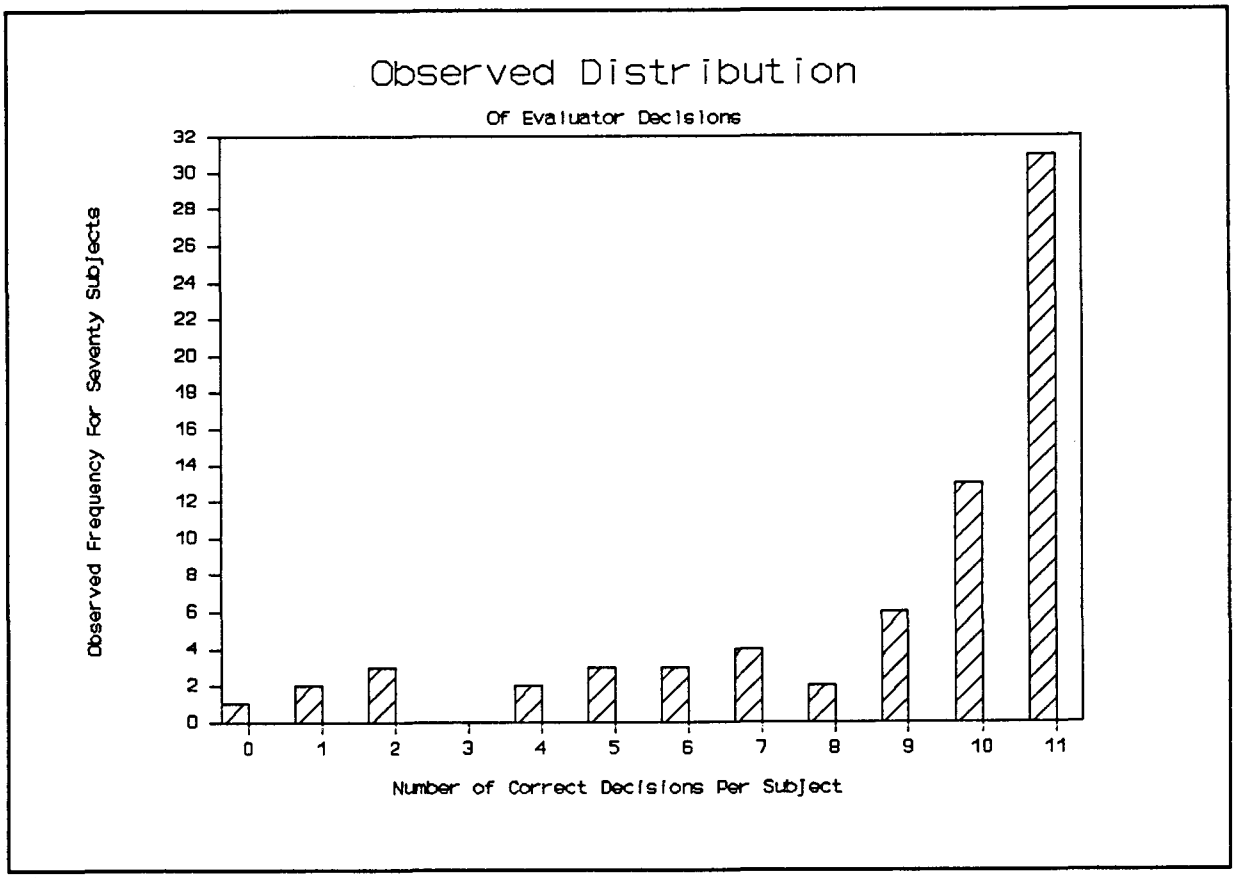

Figure 2

In analyzing the relative utility of forward, reverse, and random sequences in providing correct overall decisions, the following stratagem was chosen. The percentage of correct overall decisions was tabulated as a function of when that decision was identical to the decision based on 1) the forward sequence; 2) the reverse sequence; and 3) the random sequence. The results of that tabulation are as follows: 1) the overall decision accuracy for all evaluators was 80.6% when the overall decision was the same as that

determined by the forward sequence; 2) the overall decision accuracy for all evaluators was 81.6% when the overall decision was the same as that determined by the reverse sequence; and 3) the overall decision accuracy for all evaluators was 87.1% when the overall decision was the same as that determined by the random sequence. Inasmuch as the forward, reverse, and random sequences for a given subject are not independent events, it is not possible to infer statistical difference, based on accuracy rates, between the utility of these sequences. It is quite clear, however, that a higher percentage of correct overall decisions was made when those decisions coincided with random chart calls relative to when they coincided with either forward or reverse chart calls.

A fourth and final area of analysis is that of evaluating any subject bias in selecting numbers and any resultant evaluator bias in evaluating charts. Table 3 shows the frequency of subject selection of the six candidate numbers as well as the overall evaluator accuracy (first choice) in identifying the point of deception as a function of these numbers. Also included are the results of a regression analysis between frequency of selection and evaluator accuracy. There is a clearly demonstrated subject bias in selecting numbers from a restricted series. In general subjects tended to chose those numbers at the center of the sequence more frequently than those at the extremes of the sequence, and in this particular sequence, subjects appeared to choose number 7 (perhaps a perceived "lucky" number) at approximately twice the frequency that random chance would suggest. A regression analysis of the tabulated evaluator accuracy values for each of the six numbers versus the values for frequency of selection of these numbers did not reveal any correlation between these two variables. In essence, demonstrated subject bias in selecting numbers did not produce any evaluator bias which was manifested in the accuracy of their decisions.

Table III

Relationship Between Subject Number Selection and Evaluator Accuracy

	Frequency of Selection (%)	Evaluator Accuracy (%)
number 3	4.3	78.8
number 4	17.1	91.7
number 5	24.3	67.9
number 6	17.1	83.3
number 7	31.4	78.5
number 8	5.7	84.1

Regression Output:

Constant	84.90301
Std Err of Y Est	8.320259
R Squared	0.111362
No. of Observations	6
Degrees of Freedom	4
S Coefficients(s)	-0.25143

Discussion

Several aspects of numbers test accuracy as they relate to this study deserve comment. The overall observed accuracy for this study is higher than that reported in other cited studies. Although no effort was made to evaluate the relative contribution of the component parts of experimental procedure to achieved accuracy, three aspects of this procedure which differ from commonly applied techniques may have been reflected in the observed evaluator accuracy, and as such, may deserve further analysis. The utilization of 1) skin conductance as opposed to skin resistance; 2) disposable silver/silver chloride gelled-electrodes as opposed to metal plate electrodes; and 3) a confrontation scheme in which the subject was, while telling a directed lie, required to confront an individual knowledgeable about the lie being told.

The accuracy or detection of deception was approximately 80% for all evaluators in this study. This is a value not unlike laboratory-derived assessments for accuracy of other lie detection formats. When one takes into account that random chance would produce only a 16.7% accuracy rate for this study, and in most other detection of deception techniques assessed, evaluators have a 50% chance of correctly determining that a subject is or is not deceptive, one begins to appreciate the power of this simple technique. Furthermore, the fact that this technique was equally powerful, as utilized by novices and experienced examiners alike, speaks of its inherent power. Certainly no one would suggest that skin conductance response as utilized to detect deception in a numbers test is a specific lie response; however, if one were to have a true lie response or even a response exhibiting a high level of specificity, one would desire and perhaps expect that response to be clearly manifested to all who encounter it.

It should be pointed out that the results of this study indicating no differences between the accuracy rates of experienced and inexperienced examiners is in conflict with the results of other published studies (Horvath, 1971; and Hunter, 1973). These studies involved the blind analysis of field charts containing skin resistance data as well as the "cardio" and "pneumo" channels which are standard with most field polygraph units. The two later channels of information may well require a greater degree of experience in chart evaluation, thus allowing experienced evaluators more opportunity to distinguish themselves from novices than a laboratory study evaluated solely by skin conductance.

Although the random order sequence was presented to each subject after the forward and reverse sequences and therefore subject to greater attenuation of response due to habituation, a higher frequency of correct evaluator decisions coincided with decisions that were identical to random chart decisions than with overall decisions that were identical with either forward or reverse chart decisions. Should this trend be shown to statistically exist in a study in which different subjects were examined by the three different sequences (allowing for an evaluation of independent events), there exist both theoretical and practical implications. It may be (at least as reflected in skin conductance) that, contrary to Bowling's findings (1978), the anticipation experienced by a subject in a known sequence of questions and answers may not be as informative to a chart evaluator as the

increased concentration displayed by a subject attentive to an unknown sequence of questions and answers. It may also be that polygraphers should consider utilizing a higher proportion of random sequences versus sequences of known order in conducting examinations in which either numbers tests or any of the other wide variety of established questioning formats are used. This would be in keeping with the Barland (1984) research comparing two methods, suggesting GKT is superior to the POT format.

As stated in the introduction, numbers tests are generally performed by having a subject either select a number from a limited sequence of numbers or by having the subject choose a numbered card from a group of cards. In the latter situation the subject chooses a card bearing a number whose identity is not known (i.e., the card is turned over so as not to reveal the number) by the subject at the time of selection. the former method was chosen for this study inasmuch as it was perceived that it allowed for greater subject involvement and interest than the card selection method. This method was chosen in spite of the fact that the latter method would likely produce a more random selection of numbers. Because of this likelihood, it was felt necessary to establish whether there was a subject bias in selecting numbers and whether this bias somehow affected evaluator accuracy determinations. The data presented in the results section of this report which showed that 1) subject bias was clearly present in number selection; and 2) this bias was not shown to affect evaluator accuracy.

In summary, 1) evaluators (both experienced and inexperienced) utilizing only SCR data were able to identify the point of deception in a numbers test with great accuracy relative to the accuracy rate predicted by random chance; 2) accuracy of detection was higher when decisions about the point of deception were identical to those based only on a random sequence relative to those based only on sequences whose order was known to study subjects; and 3) subject bias in selecting numbers in a numbers test was not shown to affect evaluator accuracy in determining the selected number. Although relatively unsophisticated in nature and simple in execution, the numbers test is a powerful paradigm for generating and detecting deception.

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PROPOSED MILITARY RULE OF EVIDENCE 707
POLYGRAPH EVIDENCE IN THE MILITARY COURTS:
SOLUTION BY EDICT IS NO SOLUTION

By

Mary V. Perry, Captain, USAF

"Any rule that impedes the discovery of truth in a court of law impedes as well the doing of justice."
- Justice Potter Stewart
Hawkins v. United States, 358 U.S. 74, 81 (1958)(Stewart, Jr., concurring)

I. INTRODUCTION

In the jurisprudential quest for the truth, nothing has engendered more controversy than the issue of the use of polygraph evidence in courts of law. No less controversy exists among jurists practicing in the military courts. In fact, for nearly 70 years the polygraph has suffered nothing less than complete banishment from the vast majority of courtrooms, including military courts-martial. Since 1923, when the Court of Appeals for the District of Columbia handed down the decision in Frye v. United States,[1] polygraph evidence has generally been rejected. Federal and state courts have only come so far in the last 66 years as to permit the admission of polygraph evidence in 6 federal circuits and 15 states.[2] The military courts have generally mirrored this practice of refusing to consider polygraph evidence.[3]

Two years ago, however, the United States Court of Military Appeals (CMA),[4] issued an opinion in the case of United States v. Gipson,[5] which begins to open the door to the admissibility of polygraph evidence in military courts-martial. The opinion stops short of declaring polygraph examinations per se admissible, but unequivocally rejects the Frye rule that polygraphs are per se inadmissible.[6] Instead, the CMA opinion in Gipson concluded that it was up to the moving party to demonstrate the relevance and reliability of the polygraph examination being offered, in light of certain indicia of reliability.[7]

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In response to Gipson, the Joint Service Committee on Military Justice (JSC) has proposed a change to the Military Rules of Evidence (MREs) to create a new rule that would preclude any admission of polygraph evidence. This new rule, proposed MRE 707, would in effect legislate a return to the Frye per se exclusion. The drafters' analysis to proposed MRE 707 cites state and federal decisions which are consistent with Frye, and stand for the propositions that polygraph evidence is unreliable and fraught with dangers of usurping the function of the jury. The analysis fails to discuss meaningfully the constitutional issues involved in the rule.[8]

Nor does it appear there will be room for any such discussion outside the process by which the proposed rule is adopted. From the JSC, the proposal is reviewed by the Department of Defense General Counsel, who forwards it through the Office of Management and Budget. The rule is published in the Federal Register, reviewed by the Departments of Justice and Transportation, and sent on to the President for his approval. There is not room in this process for public debate of the proposal.

The issues of the future of polygraph evidence in the military courts needs thorough, public debate. This article is intended as a start of that public debate. The discussion here is limited to the substance of the proposed rule; that is, whether polygraph evidence should be excluded, per se, from admission into evidence in military courts. This article will not address the use of polygraph exams in pre-employment or non-suspect routine security screening processes. What it will do is begin with a detailed discussion of the science of polygraphy, reviewing polygraph techniques as well as the current debates over scientific validity of the polygraph science. The detail in this first section of the article is deliberate, for two reasons: first, the details specifically refute the analysis in the proposed MRE 707 because they incorporate the more recent polygraph studies and techniques that CMA called for in Gipson, and develop toward the conclusion that polygraph evidence is, in fact, a valid means by which to detect deception. The second reason for the initial detail in this article is to provide a primer for military courtroom practitioners, who, for as long as Gipson remains good law, will need to recognize the strengths and weaknesses of proffered polygraph exams.

After the initial section on the science, this article will review the constitutional issues raised by MRE 707. Next the article will examine how state and federal civilian courts have dealt with the issue of admitting polygraph evidence. Finally, the article will address the way in which the military services have dealt with the issue.

II. THE SCIENCE OF POLYGRAPHY

A. Early Polygraph Testing and Theory

The late 19th century marks the earliest use of polygraph testing. The Italians Lombroso and Benussi are credited with the first uses of measuring changes in blood pressure and respiration to detect lies.[9] William Marston is the first American to develop a technique of measuring blood pressure changes associated with deception; in 1917 and 1918, he helped the military solve espionage cases through the use of his new technique.[10] It was

Marston's simple blood pressure polygraph technique that was rejected in the Frye murder trial in 1923.[11] In 1921 Dr. John A. Larson combined the Theories of his predecessors and developed a machine to continuously record blood pressure, pulse and respiration simultaneously during a single polygraph examination.[12] Finally, in 1939 Leonarde Keeler added a component to measure perspiration, and working together with Larson, the two popularized the technique that was initially limited to the field of criminal investigations.[13] Keeler is acknowledged as the first to establish schools to train polygraph examiners and in 1942, and John E. Reid is credited with developing the formal technique and fixed format of questioning during polygraph examinations.[14]

The idea behind how polygraph testing works remains unchanged over time. Rooted in psychophysiology, the theory is that a person's fear of being caught when telling a lie will produce measurable physiological reactions.[15] More specifically, the measurable physiological reactions are related to the autonomic nervous system, located in such automatically controlled functions as respiration, perspiration, heart rate and blood pressure. This natural interaction between mind and body via the nervous system is triggered by any stressful or personally threatening situation.[16] For example, many people breath more heavily and quickly when apprehensive (for example, when stopped by a traffic policeman), and most will find themselves with sweaty palms and dry, "cotton" mouths.[17] A person guilty of a crime will be concerned about his guilt being detected during a polygraph examination when asked specific questions about his involvement in or knowledge of the crime. This frame of mind, or "psychological set," causes a perception of threat or stress. The sympathetic member of the autonomic nervous system alerts the body to this stress, and the behavior of specific body organs controlling, for example, pulse, respiration and perspiration, create reactions that are recorded by the polygraph instrument.[18] Thus the idea during a polygraph examination is to confront, specifically, the issue of knowledge or involvement in the crime under investigation and measure the physiological reactions.

B. Current Polygraph Practices

Like the theory behind polygraph, the polygraph instrument itself has not undergone overwhelming changes since the machine developed by Keeler in 1939. The examinee's physiological responses are measured by either three or four components. A pneumograph measures rate and depth of respiration by either one or two expandable tubes wrapped around the examinee's upper chest and/or abdomen. Perspiration, or more specifically, electrodermal or galvanic skin response, is measured by a galvanometer, typically small metal plates strapped to the examinee's fingertips. A cardiosphymograph measures pulse rate and blood pressure through what appears to be a standard blood pressure cuff placed around the bicep; however, modern polygraph machines electronically enhance the cardiosphymograph readings so that less pressure need be applied in the cuff. Finally, cardiac activity is also monitored by a sensor strapped to the examinee's thumb on the hand opposite the cardiosphymograph; this component displays a reading of pulse rate and relative blood volume in the capillaries.[19] These components are standard for machines regularly manufactured in the United States originally by Keeler Company, the Stoelting Company and Scientific Research Instruments,

Inc.[20] The important distinction between these instruments is that each has a unique method by which it is calibrated. The basic operation and performance of all of these manufactures is the same: a role of continuous graph paper moves at a set speed under pens designed to pivot on an axis of up to 90 degrees. Similar to the pens of an electrocardiogram, the pens on a polygraph machine are electronically attached to the components attached to the examinee; thus, as changes occur in the examinee's respiration, perspiration, pulse and blood pressure, the tracings caused by the pens will also change in depth and frequency of amplitude.[21]

As will be noted shortly,[22] there are several different types of polygraph tests that may be used. Regardless of the techniques used, the procedure for administering the polygraph exam is essentially the same. The average polygraph examination lasts from 1 to 3 hours, usually depending on the complexity of the purpose of the exam. The exam is composed of three parts: the pretest interview, the test itself and the post-test interview. The pretest interview is widely accepted as the most critical ingredient to the success of the entire examination. Its two purposes are, first, to exchange information between examiner and examinee, and second, to set the climate for the exam. By way of information, the examiner in every pretest interview should explain that the exam is strictly voluntary, in order to obtain the examinee's consent to take the polygraph; in criminal investigations, the examiner often will advise the examinee of his constitutional rights against self-incrimination.[23] The other half of the information exchange entails questions to the examinee to elicit his medical and psychological condition, past and present. The examiner is interested in determining if the examinee has any physical or mental condition that would make the examinee unsuitable for testing.[24]

The second purpose of the pretest interview, that of setting the climate, is usually done by the examiner explaining how the polygraph machine works and how any deception by the examinee will be very obvious to the examiner.[25] Clearly the skill and the competence the examiner demonstrates will weigh heavily in his success in convincing the examinee of the effectiveness of the exam. Persuading the examinee of the effectiveness of the polygraph should increase his fear of detection, and theoretically, cause greater measurable physiological reaction due to the increased stress brought on by the greater fear of detection. The remainder of the pretest interview varies according to the type of test technique used, and accounts for the varying average duration of this phase of the polygraph exam.[26]

Frequently, either during the pretest or between the pretest interview and the test itself, a polygraph examiner will conduct a stimulation test. This "stim" test is designed to help convince the examinee that the exam is effective in detecting lies. The most widely-used stim test is the number test, where the examinee is told to write a number on a piece of paper. The examiner than writes several numbers that immediately precede and follow the chosen number. The examiner instructs the examinee to answer "no" when asked if the examinee wrote each of the numbers, thus directing the examinee to lie when asked about the number he actually wrote. The lie is intended to trigger a greater reaction on the stim test polygraph chart. After asking about each of the numbers, the examiner shows the stim chart to the examinee and identifies where the machine has recorded the reaction to the

lie. The examiner explains that he now knows what the charts will look like if the examinee lies, and any lie on the test itself will be even more obvious, it would create an even greater reaction, since the lie will be more serious.[27] While most often given during, or at the end of the pretest interview, a stim test may also be administered after completing the first set of test questions during the test itself. Since its primary purpose is to increase test credibility (and thus physiological reactivity) in the examinee, the stim test is most effective if given during the pretest interview phase.[28]

During the phase where the test itself is administered, the examinee must be seated in such a way as to be as comfortable as possible, physically, and free from mental distractions. Thus the typical exam room is comfortably heated and lighted, and is set up so the examinee is seated in a chair facing a wall, with his back to the polygraph instrument. The set of test questions is asked at least 3 times, to provide a basis for comparison between the examinee's answers on three separate charts. No set of questions should take more than 12-15 minutes, as that is the average time at which the inflated blood pressure cuff will cause distracting pain to the examinee. Before the first question and between each question the examiner waits about 15-20 seconds to allow the examinee's physiological reactions to return to normal, or baseline levels. The examiner is busy while the machine is running, making notations on the chart whenever he begins to ask a question, when the examinee responds, and when unusual events happen, such as the examinee coughing or moving.[29] Between taking charts, the examiner should scan the readings for indications of problems with the machine or the examinee, and should ask the examinee about any out-of-the-ordinary reactions. Although results are not discussed, any other concerns by the examinee may be relieved by further explanation of, or refinements in the questions.[30]

The post-test interview is not a necessary component to a polygraph examination, and as such is not always conducted. When it is, it usually follows a brief review of the charts by the examiner. Particularly when the examinee is a criminal suspect and has produced charts indicating deception, the examiner may try to elicit a confession.[31]

More critical to the examination than the post-test interview is the post-test evaluation of the charts. Early methods developed by John E. Reid called for global, or overall comparison of psychophysiological reaction on the charts as a whole as well as the behavioral reactions of the examinee throughout the examination.[32] More widely accepted and used in the field is one or another variation of the Backster zone comparison method, where subjective examiner judgment of examinee behavior is factored out; in its place, assessment of changes in polygraph tracings is the sole criterion by which the examiner concludes whether the examinee is being deceptive. More specifically, examiners evaluate the reactions of the examinee to questions dealing directly with the issue (relevant questions) and compare them with the reaction to other questions. If there is no difference, a score of 0 is assigned to the relevant question; where there are significantly higher degrees of reaction, the examiner assigns a number along a sliding scale, with the value assigned a negative score when reactions to relevant questions are greater and a positive score when there are greater reactions to

the other questions.[33] The scales used in the standard and variations to the zone comparison method may include values from -1 to +1, up to and including a scale of -7 to +7. Frequently used by polygraphers in the federal government (including the military services) is the scale of -3 to +3. Using that scale on individual questions, the examiner combines the scores assigned to relevant questions on each chart and calculates the chart total for each question. An examiner who calculates an overall score (total of the chart totals) of -6 or lower should conclude that the examinee was being deceptive; "deception indicated," or "DI" is the usual vernacular. Similarly, if the examiner calculates an overall score of +6 or higher, he should conclude that the examinee was not being deceptive, calling the results "NDI," or no deception indicated. Overall scores between -6 and +6 are reported as inconclusive.[34]

In all federal government polygraph testing and most private polygraph exams, a quality control for the efficacy of examiners' conclusions takes the form of blind analysis. In this process a different examiner looks only at the charts, and with only minor details about the examinee, the issues being tested, and the test questions. The second examiner evaluates the charts without knowing about the original examiner's conclusions either on the individual scores assigned to the questions or on the overall scores and conclusions. As applied by the federal government, this blind analysis method resolves disagreements between the original examiner and the quality control examiner by declaring the results as inconclusive.[35]

Very recent studies have reported success in new techniques using computers for blind quality control analysis.[36] Research and studies are ongoing on the technique of routing polygraph readings through a computer before the readings are received by the instrument pens and translated into paper charts; this most recent research effort is being conducted at the University of Utah, and is expected to be reported in publication before the end of calendar year 1989.[37] Factoring out human bias from polygraph evaluations is widely accepted, even by polygraphy's greatest detractors, as a positive step toward further refinement of the process.[38]

C. Test Question Techniques

Polygraph testing techniques are as critical to the examination as in correct application of the testing process. For polygraph exams used in criminal investigations, these testing techniques may be divided into two general categories: information tests and deception tests. Information tests are designed to determine if the examinee has knowledge of specific information that would imply involvement in a crime. Deception tests are developed to detect deception by confronting an examinee with direct questions on his involvement in a crime. These two categories of tests are based on slightly different psychological and psychophysiological assumptions and employ different procedures and interpretations of test results.[39] The techniques currently used in investigations of specific crimes will be discussed in this article in relation to these two categories of tests.

1) Information Tests

The basic method in information tests is developing and asking questions containing details of a crime known only to investigators or persons involved in the crime. Both of the specific types of information tests--the peak of tension test and the concealed knowledge test--involve multiple choice questions.[40] How those questions are developed, asked and analyzed creates the distinction between the two.

a) Peak of tension tests contain a set of five to nine plausible, nearly identical alternatives about an issue in the crime under investigation. For instance, in a crime of auto theft, an example of peak of tension test questions might be:

1. Regarding the color of the stolen car, do you know if it was yellow?
2. Do you know it was black?
3. Do you know it was green?
4. Do you know it was blue?
5. Do you know it was red?
6. Do you know it was white?
7. Do you know it was brown?[41]

The alternative questions in the peak of tension test are reviewed with the examinee during the pretest interview. The first alternative is never the correct or critical alternative, and is not evaluated by the examiner.

Peak of tension tests may also be used to discover new facts. Called a searching peak of tension test, a good example is the case where the examiner knows the general area but is seeking the precise location of the victim of a homicide or kidnapping. The examinee is shown a map of the general area, divided into five to nine subsections, and asked the same kind of alternative questions as the known-solution peak of tension test. The subdivision that elicits the greatest physiological reaction from the examinee is assumed to be the one where investigators will find the victim.[42]

b) The concealed knowledge test is a variation of the peak of tension test, modified in 1959 to provide a more standardized test when several independent pieces of information are known by investigators. The test includes five or six multiple choice questions, each having six equally plausible alternatives. The first question is a buffer and is not evaluated. Within the remaining four or five questions, the correct alternative is rotated across positions two through six, to avoid a conclusion of deception (DI) or no deception (NDI) because an examinee reacts at a particular spot among the question's six alternatives.[43] In the concealed knowledge test the general subjects of the test are discussed in the pretest interview, but the examiner does not review the actual questions and their alternatives. The reason for not disclosing the questions is that the reaction of the guilty examinee will be greater when the correct alternative occurs by surprise, and the innocent examinee will not have time to reason the correct alternative. Also, the questions ask asked only once, not only to help

ensure these reactions, but also to avoid one question suggesting the answer to the next.[44]

The primary difference between the concealed knowledge and peak of tension tests is that peak of tension tests are usually used as a supplement to a deception test,[45] or, in the case of a searching peak of tension test, it may be used to assist in an investigation.[46] Strong reaction to the correct alternative results in a DI conclusion for both types of information tests; however, the tests differ, since the peak of tension test only involves one issue and one correct alternative as a basis for comparison of reaction. This is the primary reason that the peak of tension test usually only supplements another testing technique. The concealed knowledge test, on the other hand, includes at least four or five sets of incorrect and correct alternatives for comparison, increasing by at least four-fold the probability of an accurate conclusion by the examiner, and providing sufficient data to allow the test to stand alone.[47] The concealed knowledge test's greatest strength is its measure of cognitive rather than emotional responses.[48]

As strong an argument as may be made for information test techniques, in the context of criminal investigations, they share a common and often fatal weakness. Conclusions from these tests reveal that the examinee has knowledge of the facts of a crime, but not how he learned those facts. Information tests don't allow for an innocent suspect who, though present at the scene, is not guilty of the crime under investigation. Similarly, information tests won't distinguish between a killer and a person who learned the details of a murder from investigators or the media. Because details of crimes often become public knowledge, information tests are rarely used in criminal investigations; in fact, in all the field studies currently in the literature, none involves a study of the concealed knowledge test.[49]

(2) Deception Tests

In contrast to information tests, deception tests usually generally applicable techniques and, as a result, are the most commonly used type of polygraph examination for investigating criminal cases.[49] Rather than measuring an examinee's reaction to facts surrounding an incident, the deception tests are aimed at the examinee's reaction to specific questions about his role in the incident. All questions asked of the examinee must be plainly worded and are usually reviewed with the examinee so that what the examiner meant to ask is what the examinee understands is being asked. Every deception test includes relevant questions—those that embody the major issue of the incident—in combination with one or more other kinds of questions, depending on the specific deception test technique being used.[51]

(a) The relevant-irrelevant test was the first type of technique developed for polygraph testing by William Marston.[52] This test includes ten to fifteen questions divided between relevant and irrelevant[53] questions. The questions are usually reviewed with the examinee prior to testing. The technique compares reactions to the two types of questions. Conclusions derived from the relevant-irrelevant technique predict that after several repetitions deceptive examinees will react more to relevant

questions and nondeceptive persons will show little or no difference in reaction between relevant and irrelevant questions.[54] All current relevant-irrelevant techniques do have control questions or procedures, but they serve a different purpose.

The theoretical base is that reactions of truthful persons to the relevant questions attenuate more quickly than those of deceptive persons. There are several version of relevant-irrelevant questions used for specific issue testing, but some scholars believe these tests are ineffective.[55, 56, 57, 58]

(b) Control question tests in their various forms, are the most widely used testing techniques in the area of criminal investigations.[59] First developed in 1939,[60] the control question tests were developed to compensate for the problems in the relevant-irrelevant technique. More specifically, researchers turned to the idea of comparing levels of reaction to relevant questions with reactions to questions intended to create anxiety and stress. The anxiety is created by a control question, an extremely broadly worded question designed to cause a person to worry about whether his denial of the question is honest.[61] The theory here is that the control question, also known as the probable lie" question, will cause a greater reaction in the nondeceptive person. The deceptive person, however, will be more concerned about the immediate issue of the crime addressed in the relevant question, and will therefore react more strongly to the relevant than to the control question.[61]

In 1947, John E. Reid refined the control question test technique to include reviewing the questions with the examinee before the actual testing process.[63] Reid's refinement has developed into the pretest interview and has been recognized as the most critical ingredient to a successful control question test.[64] The effectiveness of the pretest interview is a direct result of the skill of the examiner. Without disclosing the distinction between relevant and control questions, the examiner uses the pretest interview to refine the control questions so that they remain vague and difficult for the examinee to easily answer with an unequivocal "no." The examiner typically introduces the control questions to the examinee by explaining that they're intended to determine if the examinee is the "type of person" who would commit a crime like the one being investigated. Control questions typically ask whether the examinee in the most recent past has done something similar to the allegation under investigation. Emphasizing the need for a clear "yes" or "no" answer, the examiner asks the first control question--for example: "Before you were 25 years old, did you ever take anything that didn't belong to you? the skilled examiner will allow the examinee to "confess" to one or two minor thefts, but the examiner will keep the examinee from unburdening too much of their anxiety. Skillfully rephrasing the question (by adding "other than what we discussed" to the question) should not relieve the examinee of the dilemma of the answer "no" to the control question.[65]

The full control question test may contain as many as five different kinds of questions. In addition to the relevant and control questions, irrelevant questions (also called neutral questions) are inserted among the sequence, typically as a start to the exam and to allow the examinee relief between the pairs of relevant and control questions. The exam itself may also include a symptomatic questions ("Do you understand I'll only ask you questions we've already reviewed?") to detect a reaction that would indicate a lack of faith in the examiner or fear of another, outside, subject being raised. Also frequently used early in the exam is the sacrifice relevant question, which is a question relevant to the issue being investigated but a question that is not evaluated. Using irrelevant, symptomatic and sacrifice relevant questions as the first two or three questions in the actual exam is the preferred method of creating a buffer, to exhaust and exclude reactions that result from whatever question is first presented and to the first presentation of a question that involves the relevant issue of the test.[66] Following the buffer questions are usually two or three sets of control and relevant questions, where each relevant question is bracketing by two control questions. To avoid spot reactions,[67] the position of the control and relevant questions should be changed in each rendition of the sequence of questions. Control question tests are scored using one form or another of the global or zone comparison methods.[68]

The three most common variations of the control question test technique are the modified zone comparison test, the modified general question test and the directed lie control question test. The modified zone of comparison test uses three types of relevant questions (direct: "Did you steal the money?" indirect: "Did you help steal the money?" and evidence connecting: "Do you know where any of the stolen money is?"), as well as a version of the peak of tension test[69] question, and two types of symptomatic questions.[70] The modified general question test technique is a variable of the early Reid test in that in one set of questions it may include several relevant questions on several different issues of a crime; however, the modified general question test evaluates only the charts--no behavioral assessment of the examinee--uses the numerical scoring associated with zone comparison methods, and uses control questions that are related to the crime but are distinct from relevant questions in terms of time and place.[71] Finally, the directed lie control questions test uses the same basic procedure it substitutes a question that the examinee is instructed to lie to; like the questions in a stimulation test,[71] the directed lie question is a known lie to both the examiner and examinee. It is intended to give the innocent person an alternative place to focus his anxiety and is not dependent on either the examinee's personal background or the success of the control question in raising the examinee's discomfort over the probable lie.[73]

D. Validity of Polygraph Testing

1) Validity Defined

In layman's terms, the validity of polygraph testing refers to the accuracy of the test in detecting deception. Measuring the accuracy or validity of the polygraph requires testing the process through several different dimensions. These dimensions involve scrutiny from the

perspective of polygraph test results and the test's intended purpose. Reliability of the test is the simplest and most objective dimension to measure. Defined as the degree to which the polygraph test produces repeatable results, reliability is measured either in terms of whether the same results occur when the exam is repeated at a different time with a different examiner (known as test-retest reliability), or in terms of whether one set of charts produces the same conclusion when re-scored by the same examiner (intra-rater reliability) or re-scored by a different examiner (inter-rater reliability). Reliability is a necessary, but not sufficient condition for validity. If the polygraph exam is established as valid, it must necessarily be reliable; however, an exam that proves itself reliable may not be valid.[74]

Closely related to reliability is criterion validity. From a practical standpoint, criterion validity is the most important dimension of validity assessments. Criterion validity refers to the accuracy of the test as a predictive technique. Measured against ground or known truth (that is, whether the examinee is actually being deceptive), criterion validity is a part of and often the end result of every research study of polygraph testing. Typically criterion validity is the object of a research effort or some part of the testing technique is being manipulated to assess the effect on criterion validity. Regardless of the objective of the research effort, criterion validity is usually reported in terms of the percentage or correlation of "correct" conclusions which detect deception or nondeception, as measured against ground truth.[75]

The ability of research studies to contribute to the validity equation depends on whether the studies themselves are valid. In this dimension, the scientists speak in terms of internal and external validity. Internal validity refers to the quality of the experimental design, whether the study has built-in controls to factor out extraneous variables that might, but should not have an impact on the results of the study. Examples of criteria to improve the quality of the study are using a control group in the laboratory setting[76], or confessions in field studies[77] to establish ground truth; or, in all types of studies, using only examiners with a minimum of five years' experience. External validity refers to the ability to generalize the results of the study to other populations or settings, typically to the "real world" people and settings for which the test is intended. The best examples for good external validity criteria in specific incident criminal investigation exams are the use of actual criminal suspects in a field study setting.[78]

Another dimension to the validity equation is what is known as construct validity. Construct validity is defined as the degree to which the technique measures what it is intended or designed to measure. Construct validity requires that a test be based on a theory or conceptual model that hypothesizes a result in a given case. For instance, in information test techniques, the theory is that someone with knowledge of a fact in a crime will have a greater physiological reaction to the denial of knowing that particular fact than to the denial of knowing closely related, but inaccurate facts. Similarly, in the control question test technique, a person involved in a crime will react more to the denial of specific involvement in that crime than to the denial of unspecified criminal behavior over long

periods of time.[79] Thus, different test techniques have different theoretical bases, necessitating multiple forms of construct validity for the field of polygraphy. On this level of analysis, theoretical predictions of how items should interrelate are proved by examining the charts produced by like techniques. If the analysis of the charts produces no relationships which support the underlying theory, it is impossible to establish construct validity.[80]

The literature contains numerous articles concluding that one manner or form of polygraph testing technique has been proved to be valid by one or more measure of the term, through all manner of study. Consistent with the charter of this article, the following discussion of the literature will be limited to analysis of the control question technique, which, in one form or another is nearly the exclusive form of testing technique used in specific incident criminal investigations.[81]

2) Validity Reviewed

In 1983, one of the most extensive studies of the science, the research and the validity of polygraph testing was published in a technical memorandum produced by the Office of Technology Assessment.[82] In just over 100 pages, the study spanned the full gamut of time and technique, and scrutinized 30 studies of the control question test technique. Often cited as an indictment of polygraphy, the OTA report concluded that the evidence indicates that polygraph testing most effectively detects deception using control question techniques in the specific incident criminal investigations. The general conclusion of the study uses the phrase "better than chance" to describe the degree of reliability of this technique, and caveats that significant error rates are possible.[83] The report includes a breakout of ranges of accuracies that have alternatively been cited by polygraph foes as overall 70% accurate and by polygraph proponents as overall 85% accurate.[84] Friend and foe alike justify their assessments: 70% is the overall average of all categories of field and laboratory studies. The 85% figure represents the average of the field studies only, presumably limited to that type of study because of the generally acknowledged higher levels of external validity. The OTA report also acknowledged the issue of external validity, but found the laboratory studies acceptable when balanced against the criterion validity problem of uncertain ground truth present in some field studies.[85] In addition to other factors affecting validity,[86] the OTA report cited serious methodological problems in the studies it reviewed, implying that the accuracy rates in its own report were suspect. In its closing chapters, the OTA report called for more research in all areas of polygraph testing.[87]

One year after the OTA report was published, a report was published with an overall 73% accuracy rate from a field study involving suspected theft from the workplace. By many accounts, however, this study was fraught with serious methodological errors, not the least of which was having the blind interpretation of the collected charts done by student examiners who were not fully trained in methods of test interpretation.[88] In the three years since this report, several field studies have passed methodological muster, and good deal of scientific debate has been published, all of which present a compelling case for the validity of polygraph examinations.

In the spring of 1987 there appeared a debate on the pages of one journal between long-time adversaries on the subject of polygraphy. David Lykken opened the argument with an indictment against the science. Using probability theory, Lykken argued that validity studies professing accuracy rates in excess of 80% were misleading because they are based on the assumption that 50% of any given population are being deceptive. Analogizing to the case of urinalysis drug testing among airline pilots, the base rate (or expected frequency that the phenomenon will occur), is much less than 50% (more like 5%) and when testing large populations, will produce accuracy rates closer to only 50% correct. Lykken asserted that he could, and in fact did teach prison inmates how to beat the polygraph after only 15 minutes of training. As his final indictment against polygraphy, Lykken cited the refusal of the court to hear polygraph evidence in the criminal case against John DeLorean as proof of the fact that the testimony of the polygrapher as an expert is so overwhelming that it decides the verdict for any jury that is convinced by the testimony.[89]

In response, David Raskin and John Kircher called Lykken's analysis "incomplete, incorrect and misleading in many respects."[90] Specifically, Raskin and Kircher asserted Lykken's probability theory calculations were inaccurate, and with correct statistics, the accuracy rates of the most recent polygraph studies ranged between 83 and 95% accurate. Barely concealing professional and personal contempt, Raskin and Kircher set aside the legal and ethical questions of teaching inmates how to beat a polygraph, and challenged the results of Lykken's experiment; the results were unreliable, they argued, because ground truth was established by the secondhand hearsay of the inmate leader, a member of a group of "notorious liars." As such, Raskin and Kircher insisted, "Lykken was unable to convince any scientific journal to publish the results."[91] Raskin and Kircher dismissed Lykken's assertion that the polygrapher as an expert witness would overwhelm the jury process, citing statistics on the inaccuracy of forensic evidence which is routinely admitted in courts. Finally, Raskin and Kircher called Lykken on his summary of the DeLorean trial, explaining that the polygraph evidence was excluded not because of a lack of faith in the science, but because of errors in the administration of the exam itself.[92]

Both of these positions on the subject of polygraph validity, by the same authors, were published in 1988. This pair of articles differed little in their respective conclusions, but took very different paths to reach those conclusions. Professor Lykken attacked the theory behind the control question technique, argued that the process was intended, and in fact is, an intrusive invasion of privacy which results in high rates of false positive (nondeceptive people declared deceptive) because relevant questions are more disturbing—even to innocent persons—than are control questions.[93] By way of proof, Lykken cited the example of the CBS News "60 Minutes" expose in which several polygraphers were told that an employer suspected one employee of a theft that never actually happened and the polygraphers each declared the innocent employee deceptive[94]; while this experiment had some popular appeal, it lacked serious methodological credibility. More importantly, it is the most recent study cited by Lykken, who dismissed all but two reviewed in the 1983 OTA report and, in conjunction with the 1984 study which used polygrapher-trainees,[95] concluded that polygraph testing has an accuracy rate of only 70%.[96] More difficult to reconcile in Lykken's article,

however, is his insistence that polygraph will work if used in the he concealed knowledge format; one-third of his article is dedicated to bolstering the concealed knowledge technique, but in this latter section Lykken concedes there are no field studies to support his assertions.[97] What becomes difficult to reconcile is Professor Lykken's assertion that the polygraph cannot detect deception when measuring emotion such as control questions engender, but it can detect deception base on concealed--or in his words, "guilty"--knowledge.[98] There is no evidence he cites--either psychological, physical or psychophysiological--to support the distinction between the cognitive and emotional reactions which are supposed to create the infallibility of the concealed knowledge test.

In contrast, Professor Raskin reached the opposite conclusion, declaring polygraph evidence fit for jury consumption, and specifying the scientific data to support his conclusions. First, Raskin reviewed the studies in the 1983 OTA report for internal validity, and dismissed several (including one of his own) because of their faulty determinations of ground truth and other methodological errors.[99] Raskin than ran through conditional probability calculations and reached the conclusion that there is a 95% accuracy rate on polygraphers' conclusions of deception and an 85% rate on calls of no deception, with a confidence in deceptive outcomes at 83% and in nondeceptive outcomes of 96%.[100] These results are consistent with repeated conclusions by both supporters and detractors of the science that there tends to be a higher rate of false positive errors (declaring a nondeceptive person deceptive).

In this review of the science, Raskin alluded to a field study underway in his laboratory which indicated accuracies which supported his calculations. In May of 1988, that study was reported to the National Institute of Justice (hereafter, NIJ study), and in fact did result in examiner accuracies of 95% for deceptive conclusions and 96% for nondeceptive conclusions, with an error rate of between 4% and 5%.[101] In a lengthy preamble to the report, the authors cited extensively the 1983 OTA report, and stated the study was specifically geared to fill the gap in research that the OTA report cited.[102] With careful attention to internal validity, and nothing but citations with favor in the literature in the year that has followed this report, it stands as an extremely strong source of evidence supporting polygraph validity.

Two issues affecting validity were cited by the 1983 OTA report but not addressed in the NIJ study. First is the issue of confidential polygraph examinations, or the "friendly polygrapher" theory. First proposed nearly 15 years ago,[103] the friendly polygrapher theory asserts that a guilty person is more likely to "pass" a polygraph exam, be declared nondeceptive, if the exam is confidential, the results of which will not be disclosed if a deceptive conclusion is reached. Presumably, this no-lose situation reduces the stress faced by the examinee when confronted with relevant questions in the polygraph exam, and allows the examinee to focus anxiety on control questions. It gives the examinee greater confidence, the examiner will be more supportive and the results will more likely be favorable.[104] The theory developed from a laboratory study fraught with internal validity problems.[105] Field data tend to disprove this theory, in that substantially more people who took polygraph examinations in confidence failed those exams

than did people who took them knowing that the results would be revealed. Intuitively, this data makes sense. the theory does not assert that all reaction or even significant reaction to relevant questions disappears; without any substantiating data, the theory fails to explain how the climate set by the friendly polygrapher creates greater reaction on control rather than relevant questions. Although the results are not to be revealed, the exam should still be conducted according to established polygraph procedures, which includes obtaining the examinee's consent and advisement of rights; the usual effect of these pieces of information is not likely to be complete confidence in strict confidentiality. In addition, the examinee still has a good deal at stake in the confidential exam: failing the exam closes off an avenue of defense and may have adverse effects on the relationship between the examinee and attorney.[106]

The second, and more serious issue effecting the validity of polygraph testing is the issue of countermeasures. They are defined as anything that can distort or defeat a polygraph examination, and are divided into two broad categories: general state countermeasures and specific point countermeasures. General state countermeasures either heighten or dampen physiological responsiveness through the use of either chemicals (drugs) or mental controls such as biofeedback or forms of hypnosis. Since the general state countermeasures effect overall responsiveness, they should have better success with information test techniques. In theory they should have no effect on control question tests except to render an inconclusive outcome, since chart interpretation in the control question technique compares the relative physiological reactions between control and relevant questions. Rather, specific point countermeasures should pose the greatest threat to control question tests, since the specific point countermeasure is intended to heighten or dampen physiological responses at the particular time at which the examinee uses it. These specific point countermeasures are either physical—typically flexing muscles or inflicting such minor pain as biting the tongue or stepping on a tack laced in a shoe—or mental—such as counting backwards from 200 by intervals of 7. If, during a control question test the examinee employes one of these specific point countermeasures in response to a control question, he or she may produce greater reaction at that point in the examination, and thereby cause the examiner to render a nondeception conclusion.[107]

Such is the theory of countermeasures. The research on countermeasures paints a very different picture. A recent review of the research on countermeasures reported that general state countermeasures have, in the past 5 years, proved ineffective in altering either information tests or control question tests. Specifically, the research has tested and found no effect from the drug valium, meprobamate, Ritalin, propranolol and alcohol; similarly, biofeedback was only once reported as successful in effecting information tests, but even that report was challenged due to irregularities in test methodology.[108]

The research is not so unequivocal when it comes to specific point countermeasures. A recent study involved laboratory examinations where examinees were trained in the use of specific point countermeasures. The study revealed that almost half (47%) of the examinees who were trained

and given the chance to practice the technique, were able to produce false negative (deceptive called nondeceptive) results.[109] Notable in that study was the fact that two sets of experiments were conducted: the use of specific point countermeasures had no effect on the accuracy rate (87%) in detecting deception among the group of examinees who were not as extensively trained as the more successful group.[110] A similar study the following year resulted in a lower success rate for countermeasure users: 37% of those trained in physical and 25% of those using metal specific point countermeasures produced false negative results.[111] The full measure of seriousness of these tactics is the consideration of external validity: the examiners in these laboratory studies were aware that countermeasures were being used, and in none of the studies were the examiners were successful in detecting the use of countermeasures. It is difficult to imagine that field examiners will improve the record of detecting countermeasures.

The researchers have made several proposals to diminish the threat posed by specific point countermeasures. First, the studies show that these countermeasures only pose a serious threat if the examinee is both informed and trained in the tactics. Aside from the laws and/or ethics that would be compromised if a polygraph examiner were to provide such training, most criminal suspects don't have the time or money available to acquire such training. Even in the event training is obtained, success is not always guaranteed, one researcher trained a group of psychologists, psychiatrists and medical students, but all examinees failed to have an effect on the polygraph results.[112] Second, countermeasure detectors are being developed and employed with some success. Motion detectors built into polygraph chairs and electromyographs which detect muscle flexing have proved to be as successful as 90% in detecting examinees who bit their tongues and pressed their toes to the flood.[113] Finally, counter-countermeasures are available to examiners, and may be easily used by having an examinee hold open his mouth or elevate their unshod feet from the floor.[114]

E. Conclusions

If they have told us nothing else, validity studies of polygraph testing have shown that the state of the science has developed by leaps and bounds in the last 60 years. The most recent research efforts have established an accuracy rate in excess of 90%. What makes these latest efforts remarkable is the fact that they accounted for methodological weaknesses of earlier studies, as described in the most comprehensive study of the science, that being the 1983 OTA report. Factors affecting internal, external and criterion validity must be addressed before a polygraph examination is tendered as a reliable measure of a person's deception or non-deception. the science is currently at the stage of producing reliable results, provided testing techniques are appropriately and accurately employed. What's more, examiners should be expected to use the latest methods in detecting the only real threat to the process: specific point countermeasures. CMA, in the Gipson decision, succinctly stated the parameters of these validity dimensions: 1) examiner competence; 2) examinee suitability; and 3) the nature of the testing process. Assuming the use of means to detect and prevent the use of specific point countermeasures, polygraph evidence that measures up to the demands of the scientific community is sufficiently

reliable that it leaves only the legal issues of admissibility to be resolved. Such legal issues as are based on constitutional arguments follows.

III. CONSTITUTIONAL ISSUES RAISED BY PROPOSED MRE 707

Nowhere in the text or analysis of the proposed MRE 707 is there any mention of the constitutional issues involved in a per se exclusion of polygraph evidence. Similarly, the principal opinion Gipson dismisses any theory that admitting polygraph evidence is constitutionally mandated; rather, the opinion states, the evidence needs only be shown to be relevant and helpful. Limiting discussion of the admissibility of the polygraph evidence in either of these ways is to ignore the most compelling arguments, both for and against the issue of admissibility.

A. Compulsory Process

Rooted in the origins of constitutional law, the argument is indisputable that an accused has the right to present a defense, to present exculpatory evidence with the same benefit of the use of subpoena that the prosecution enjoys.[115] This argument was first explained at the turn of the 19th century, by one of the drafters of the constitution, then Supreme Court Chief Justice John Marshall, in a case of treason against the former Vice President Aaron Burr.[116] In response to a defense request for a letter in the hands of President Jefferson, Chief Justice Marshall wrote that the right to compulsory process may be limited only if its use is proven improper: that the right applies to compelling the production of documents as well as witnesses; and that only a minimal showing of materiality is required before it is to be exercised.[117]

Successors to Chief Justice Marshall have been no more tolerant of limitations on compulsory process rights. Writing for the Court in 1967, Chief Justice Earl Warren declared unconstitutional on compulsory process grounds, the Texas statute that barred an accused from calling his accomplice as a witness, due to an accomplice's inherent unreliability when called to testify on behalf of a co-participant.[118] Chief Justice Warren wrote: "The right to offer the testimony of witnesses, and to compel their attendance, if necessary , is in plain terms the right to present a defense ... This right is a fundamental element of due process of law."[119] The Chief Justice stated that the Texas statute was based on the same invidious rationale as those laws which prompted the framers of the constitution to write the compulsory process clause: namely, "the right to present witnesses was subordinate to the court's interest in preventing perjury, and that erroneous decisions were best avoided by preventing the jury from hearing any testimony that might be perjured, even if it were the only testimony available on a crucial issue."[120] Simply stated, the state of Texas had no confidence that a jury could give proper weight to the evidence it heard. Rather than allowing this kind of arbitrary rule to prevent whole categories of defense witnesses from testifying, the Sixth Amendment requires that we recognize that "the truth" is more likely to be arrived at by hearing the testimony of all persons of competent understanding who may seem to have knowledge of the facts involved in a case, leaving the credit and weight of such testimony to be determined by the jury or by the court."[121]

Related to the Burr and Washington cases, but styled as a due process appeal, Chambers v. Mississippi, [122] involved a statute that prevented a criminal defendant from calling an exculpatory witness who'd confessed to the crime for which the accused stood trial; the prosecution refused to call the witness, and the state "voucher" rule prevented Chambers from cross-examining his own witness. The Supreme Court held that denying Chambers the chance to cross-examine the witness with his (the witness') confession amounted to denying Chambers the right to a fair trial. The effect was a denial of Chambers' right to present exculpatory evidence, erroneously based on the state government's interest in preventing testimony that was likely to be perjurious; rather, the evidence of the witness' confession bore persuasive assurances of trustworthiness (as a declaration against interest). What's more, it was, at a very minimum, material to the defense, and preventing its use constituted a mechanistic application of a rule to defeat the ends of justice.[123]

The proposed MRE 707 is analogous to the early laws for which the compulsory process clause was written, as well as the Texas and Mississippi statutes. The combined standards in the Burr, Washington, and Chambers opinions require that proponents of MRE 707 show that, 1) excluding polygraph evidence is necessary to preclude compelling testimony for immaterial reasons not even minimally related to a legitimate defense purpose; 2) that the government has an overriding interest in protecting a jury from overwhelming evidence; and 3) that polygraph evidence, like accomplice testimony, is likely to be untrustworthy. There can be no question that polygraph results that indicate an accused was not being deceptive in denying a crime are exculpatory and not only significantly related but also critically material to a defense. Similarly, negative (deception indicated) results of a polygraph administered to prosecution witnesses may prove critical to a defense attack on the credibility of the prosecution's case. In either case, there is little room for debate that the evidence, if believed by the trier of fact, serves a legitimate defense purpose.

There is, however, a good deal of debate on the issue of protecting the jury from the overwhelming effects of polygraph evidence. It is on this point that many polygraph opponents register their loudest protest:

> When polygraph evidence is offered in evidence at trial, it is likely to be shrouded with an aura of near infallibility, akin to the ancient oracle of Delphi. During the course of laying the evidentiary foundation at trial, the polygraphist will present his own assessment of the test's reliability which will generally be well in excess of 90 percent. He will also present physical evidence, in the form of the polygram, to enable him to advert the jury's attention to various recorded physiological responses which tend to support his conclusion ... To the extent that the polygraph results are accepted as unimpeachable or conclusive by jurors, despite cautionary instructions by the trial judge, the jurors' traditional responsibility to collectively ascertain the facts and adjudge guilt or innocent is preempted.[124]

Arguments such as these are generally not supported in the literature. More specifically, studies tend to show that juries are more inclined not to give extraordinary weight to polygraph evidence.[125] Several theories exist

as to why polygraphy doesn't usurp the fact-finding duties of juries; jurors distrust scientific evidence; cross-examination brings out the weaknesses in polygraphy, giving jurors the ability to give exams only the credit they are due; and significant other evidence to support either conviction or acquittal simply outweighed the impact of the polygraph evidence.[126] Such a condescending attitude toward jurors is not only unsupported by studies, but also not shared by all:

> It is high time that lawyers and judges accept the fact that the rest of society is entitled to the respect and consideration of equals. The mere possession of an LL.B. or a J.D. does not anoint the holder with powers of discernment not vested in our ordinary mortals. Today it takes a certain affrontery, a certain intellectual arrogance, a certain snobbery, to say to a juror, "You cannot hear this evidence because you are not capable of effectively evaluating it." Because of a lack of appreciation of the stability and integrity of the jury system, too much emphasis is still being put on the danger of prejudicing the jury by the admission of allegedly improper evidence.[127]

These words apply most appropriately to refute arguments that military juries can be unduly influenced by the aura of polygraphy. The overwhelming majority of jurors in military courts are commissioned officers, over the age of 21, who, at a minimum, hold baccalaureate degrees, and many of whom hold postgraduate degrees.

Finally, proponents of MRE 707 must, under the standards of Burr, Washington and Chambers, show how polygraph evidence is likely to be untrustworthy. As a general rule, the scientific research on polygraphy supports the opposite proposition: in more than 90% of the cases, polygraph evidence will likely be accurate in detecting deception. Even its greatest detractors concede that, when competently administered, polygraph examinations are accurate 70% of the time.[128] Even at the low rate of accuracy, polygraph evidence compares more favorably to other, regularly accepted forms of evidence; for instance, the accuracy of psychiatric predictions of dangerousness in criminal defendants has been reported as less than 50% accurate.[129] The prerequisite that the exam be competently administered places the burden on counsel for both sides and the judge, respectively, to demonstrate, challenge and determine whether the proffered examination satisfies standards of reliability.

Compulsory process is the companion and counterpart to the basic constitutional right of criminal defendants to be confronted by the witnesses and evidence against them. "Together they constitutionalize the right to a defense as we know it."[130] Together they tip the balance in favor of the defense because of the potentially overwhelming resources which maybe brought to bear by the government. From the perspective of a compulsory process argument, competently conducted polygraph evidence must be available to a criminal accused, as a matter of constitutional mandate. The same mandate, of course, does not exist for the prosecutor; however, as the Gipson opinion stated, admissibility of polygraph evidence is not a one-way street.[131] The specter of polygraph evidence tendered against a criminal

accused raises some of the strongest arguments against the use of polygraph evidence.

B. Privacy Rights

Cited as early as 1890,[132] the concept of a right to privacy has developed in constitutional law through a slow, stepped process. Not a specified entitlement in the Bill of Rights, the right to privacy has been molded by the supreme Court since 1928,[133] and, over this century, has evolved to incorporate such issues of privacy as the decisions of married persons to use contraceptives,[134] the decision of a woman to have an abortion,[135] and nondisclosure of the purely private, personal matters of public officials.[136] Based on the idea of freedom of choice to make personal decision, each of these cases draws its basis of protection from the theory that penumbral rights emanating from the Ninth Amendment extend into these areas of privacy. In addition, the right to privacy has also been derived from the Fourth Amendment protections against unreasonable searches and the Fifth Amendment protection from self-incrimination.[137] No decision has yet been issued involving privacy protections in the polygraph arena, but several arguments are compelling. Polygraph constitutes a per se unreasonable search of an individual, due to its intrusive process of extracting human thought.[138] Most compelling is the argument that polygraph exams are actually aimed at eliciting responses that are essentially testimonial in nature, and in the case of a conclusion of deception, might well result in self-incrimination by the examinee.[139]

As compelling as these arguments are, they fail when confronted with the fact that no polygraph exam is competently administered or accepted as evidence without the consent of the examinee. Since their inception, the protections under the Bill of Rights have been subject to waiver, provided the waiver was knowing and voluntary.[140] One argument asserts that in the area of polygraph, consent cannot ever be voluntary because in order to be truly voluntary, consent must be capable of effective termination; and, the argument continues, the only way to terminate consent in a polygraph examination is to detach the components.[141] This argument demonstrates a basic misunderstanding of the polygraph technique--movement by an examinee skews the polygraph tracings, causing distortions that cannot be evaluated--and fails immediately because a competent polygraph examiner will terminate an examination if an examinee continues to move, refuses to answer questions, or indicates that the examination should stop. Assuming a knowing and voluntary consent to take the examination, conducted by a competent examiner, the constitutional arguments based on privacy should pose no barriers to polygraph admissibility.

In sum, rules which prohibit the introduction of evidence must yield to an accused's sixth amendment right to compulsory process, unless there is an overriding government interest. Long accepted as an overriding government interest is the integrity of the judicial process, protecting the reliability of verdicts, typically through rules of procedure and evidence.[142] Thus, even when the constitution appears to tip the balance of admissibility of evidence to protect a fundamental right, that evidence must still comply with rules of evidence that have withstood the test of time. As in the Gipson decision, courts in the various states and federal districts have

fashioned rules to preclude polygraph evidence, based on the interpretation of various rules of evidence. What follows is a review of some of these rulings on polygraph admissibility in the civilian courts.

IV. CURRENT STATE OF POLYGRAPH EVIDENCE IN THE COURTS.

A. The State Courts

The majority of the states do not allow the admission of polygraph evidence, under any condition.[143] Fifteen states have held that polygraph evidence is admissible, provided the parties stipulated to its admissibility in advance of the examination.[144] The rationale behind both of these positions is best exemplified in the recent history involving the state of Wisconsin's treatment of polygraph evidence.

Until 1974, Wisconsin courts rejected polygraph evidence, citing the Frye rule that polygraph evidence had not progressed to the point of general acceptance in the scientific community.[145] In 1974, the Wisconsin Supreme Court, in the case of State v. Stanislawski,[146] ruled that polygraph examinations had progressed to a point of scientific recognition that no longer required an unconditional rejection of polygraph evidence.[147] Citing the widespread use of polygraphy in private industry and public agencies, the court held that the accuracy of polygraph evidence was at least as accurate as other types of expert testimony which is regularly admitted into evidence.[148] The court did not, however, fashion an unconditional rule of admissibility; rather, in addition to three other conditions, the court required the parties to enter into a stipulation as to the admissibility of the examination at trial.[149] A reading of the decision leads to the conclusion that "the stipulation cured the court's basic concerns and policy objections because it obtained the parties' waiver of objection to the validity of the basic theory of polygraphy, enhanced the reliability of the test, and assured the integrity of the trial."[150] In 1978, the court revealed that its greatest concern was to fend off the effects of the "friendly polygrapher:" unstipulated polygraph evidence is less reliable because a criminal accused who didn't fear the use of bad results against him in a subsequent trial would not sufficiently fear detection to give reliability to the examination results.[151]

Within 5 years of the Stanislawski decision, the winds of change began blowing among the justices of the Wisconsin Supreme Court. Several decisions on the subject of polygraphy included dicta that implied that a minority of the court would overrule Stanislawski if given the chance.[152] The minority got that chance and succeeded in convincing a majority of the court to overrule the Stanislawski in the case of State v. Dean.[153] Specifically, the court held that the conditions set in Stanislawski did not enhance the reliability of polygraph evidence or protect the integrity of the trial. In particular, the court rejected the friendly polygrapher theory, concluding that the required stipulation did little or nothing to enhance the reliability of polygraph, but rather was an agreement by the trial court to the admissibility of polygraph on the basis of the parties' waiver.[154] Couched in terms of refuting the effects of each of the four Stanislawski conditions, the essence of the court's ruling was its rejection of the reliability of polygraph evidence.

The evolution of the rule excluded polygraph evidence in Wisconsin succinctly states the reasoning in most jurisdictions where polygraph evidence is either completely rejected or conditioned on the stipulation of the parties.[155] The Wisconsin experience also demonstrates the divergence of sentiment even among judges in the same jurisdiction, regarding polygraph evidence. The most significantly different judicial viewpoint comes from the state of New Mexico. In this jurisdiction, the courts have allowed unstipulated polygraph evidence into evidence, conditioning admissibility on a showing that the exam was properly administered by a competent examiner.[156] Telling in the opinions of this maverick state is its courts' explicit recognition that polygraph evidence is sufficiently reliable to warrant admission, and the implicit recognition that the jurors in the state were sufficiently competent to avoid being overwhelmed. New Mexico is, obviously, in the distinct minority, and unless and until the most recent reports of polygraph validity are more widely acknowledge, it is most likely to remain in the minority.[157]

B. The Federal Courts

The issue of admissibility of polygraph evidence in the federal courts has not been addressed in any written opinion of the Supreme Court. In 1982, then Associate Justice Rehnquist, joined in by Justice O'Connor, wrote a dissenting opinion in a case which the full Court refused to hear.[158] The case was an appeal from a Wisconsin conviction decided under state law before the Dean[159] decision. It involved a defendant who claimed denial of due process because the state prosecutor refused without good reason, to enter into a stipulation required by the law at the time for polygraph evidence to be considered at trial; on appeal, the Seventh Circuit Court of Appeals overturned the conviction, and in a decision based in part on the constitutional issues of Washington v. Texas, and Chambers v. Mississippi,[160] the circuit court held that a prosecutor's refusal to enter into a stipulation such as the one in this case must be for justifiable reasons. "Justifiable reasons in this context are reasons which go to the reliability of the test or to the integrity of the trial process, not reasons which consider merely the relative tactical advantages from the use of the evidence to the prosecution and the defense."[161]

In their dissent from the Court's decision to refuse review of the appeal, Justices Rehnquist and O'Connor argued that the case did not involve constitutional due process or compulsory process issues. Their reasoning went as follows: first, state law made polygraph evidence inadmissible unless stipulated to by the parties. Second, the court of appeals decision did not rest on the trial court's exclusion of evidence necessary for a defense, but rather on the prosecutor's refusal to stipulate to otherwise inadmissible evidence. If the court of appeals reasoning is applied beyond the scope of polygraph evidence, to other types of evidence, then there may be issues of constitutional proportion every time a prosecutor resists otherwise inadmissible evidence which tends to exonerate the accuses.[162]

Unfortunately, neither the Supreme Court nor the Seventh Circuit Court of Appeals provided guidance in the McMorris case on the issue of admissibility of polygraph evidence. Both the Court of Appeals and the two dissenting justices avoided the issue of whether polygraph evidence should be

admissible, stating that Wisconsin was free to wholly exclude polygraph evidence if it chose to follow that route.[163]

In view of the silence from the high court on the issue, it is from the circuit courts of appeal that there is guidance on the state of polygraph evidence in the federal civilian courts. As earlier noted, six of the twelve federal circuits leave to the discretion of trial judges the issue of whether to allow the admissibility of polygraph evidence.[164] Even where there is no per se rule of exclusion, the federal courts have closely scrutinized tendered polygraph evidence before ruling on its admissibility. Through their rulings, several of the circuits have established trends which reflect judicial rejection of the validity of polygraph evidence.

This is precisely the state of the law in the Ninth Circuit, where that circuit's court of appeals recently decided the issue in the well-publicized trial of Richard Miller, an FBI agent convicted of espionage.[165] After being told he failed one set of polygraph exams, Miller made some incriminating admissions to a second polygraph examiner. At trial, Miller challenged the voluntariness of his admissions. The trial court allowed the prosecution to "set the scene" as to how those admissions were made; however, the court permitted the prosecutor to go past scene setting and into the script of the questions asked of Miller during the examinations.[186] The Ninth Circuit Court of Appeals reviewed decisions in several other circuits, highlighting that those jurisdictions allowed polygraph evidence in limited circumstances, in order to rebut the defendant's allegations at trial that certain admissions were not voluntary or government investigations were incomplete.[167] The error in the Miller case was in the trial court failing to limit the extent of the polygraph evidence. Specifically, the appellate court reiterated its "uniformly 'inhospitable view'" towards the admission of unstipulated polygraph evidence, "given its questionable reliability ... its 'misleading appearance of accuracy,'" and "the danger that the jury will misuse it, giving it substantially more weight than it deserves."[168]

Thus, the Ninth Circuit Court of Appeals echoed the same sentiments of the Wisconsin state courts as they returned to restrictive, per se exclusion of polygraph evidence. The Miller court cited with favor an earlier Ninth Circuit Case, Brown v. Darcy,[169] which explained in great detail the basis for that circuit's distrust of polygraph evidence. Although the Brown opinion contained extensive citation to studies that supported the court's rejection of the tendered polygraph evidence, nowhere did the court explain why it rejected unstipulated evidence. Its opinions suggest that the court, like many other federal and state courts, would accept polygraph evidence if the parties had stipulated to its admissibility prior to the examination. Yet no evidence exists to support this practice. A polygraph examination becomes no more reliable because the parties stipulate to its admissibility. Such a practice presumes that unstipulated polygraph exams proffered by criminal accused are unreliable because deceptive people have an easier time passing confidential exams. Studies have shown that the converse is true: confidential polygraph examinations are no more frequently passed than are stipulated exams, and in fact are more frequently failed.[170] Stipulation by the parties does not make individual polygraph examinations more reliable, nor does a stipulation affect the validity of the testing technique.

Even more untenable, yet unexplained by the courts, is the effect of a stipulation on the ability of a jury to determine what weight it should give to the evidence. The argument most often voiced by polygraph opponents is the overwhelming influence of polygraph evidence over jurors. If the reason for admitting polygraph evidence turns on its reliability, and it only becomes sufficiently reliable if the parties stipulate to it, then stipulated polygraph evidence should be extremely compelling. Further, if the fear of unstipulated polygraph evidence is its influence over a jury, then that overwhelming impact should become a certainty when more reliable--that is, stipulated--polygraph evidence is tendered to the jury. The point here is that the relative reliability of polygraph evidence does not make a jury any more or less competent to evaluate the evidence, nor does it make a jury any more or less susceptible to any improper influence. Rather, if the fear is assumed, for argument's sake, to be well-founded, then the very thing that is feared would happen-overwhelming influence--should be more likely to happen as reliability increases. Thus, states and federal circuits that subscribe to these arguments should not only reject unstipulated polygraph evidence, but also they should more adamantly reject polygraph evidence to which the parties have stipulated.

As developed in the Brown opinion, the root of the arguments against the admissibility of polygraph evidence is the fundamental disbelief in the reliability of the evidence. The only tenable reason for 21 jurisdictions to distinguish between stipulated and unstipulated polygraph evidence is the belief that a stipulation tends to make polygraph results more reliable. Absent the stipulation, these courts refuse the evidence. Unless and until the evidence gains more credibility in the eyes of the legislatures and courts of the state and federal jurisdictions, polygraph evidence stands little chance of advancing much beyond the banishment it has suffered since 1923. With the decision in the Gipson case, however, one system of federal courts--the military court-martial--appears to be lifting the ban on the admissibility of polygraph evidence.

V. Polygraph Evidence in the Military Courts

A. Past Practice

In 1954, the military adopted the Frye test, requiring that scientific evidence meet with general acceptance in the scientific community before it will be admitted into evidence.[171] That standard has been applied in the military courts over the years to such types of evidence as interracial identification,[172] bite-mark identification,[173] and blood spatters.[174] In 1955 the CMA published its first opinions rejecting lie detectors, both human and mechanical.[175]

Through the years that polygraph evidence was completely rejected by the military courts, some limited exceptions were carved for its use at trial. Like the 9th Circuit treatment of unstipulated polygraph evidence, the military courts allowed polygraph evidence for such limited purposes as the truthfulness or voluntariness of confessions.[176] In one of the most recent cases decided before Gipson, the Air Force Court of Military Review made it clear that the military courts had long followed the civilian courts' tradition of not allowing polygraph evidence on the issue of the

truthfulness of statements made to a polygraph examiner; rather, polygraph evidence was allowed only on such collateral issues as the voluntariness of confessions.[177] This tradition ended two years later, with the Gipson decision.

B. Gipson and Its Progeny

When CMA decided the Gipson case, there was more that the court did not say than what it did. What it did say was, unequivocally, no longer would the military courts apply the Frye per se rejection of all polygraph evidence. The court recognized the reliability of polygraph evidence as being, in the right case, "as good or better than a good deal of expert and lay evidence that is routinely and uncritically received in criminal trials."[178] How the parties and judges at the trial level recognize "the right case" is by assessing "the competence of the examiner, the suitability of the examinee, the nature of the particular testing process employed, and such other factors as may arise."[179] Once the polygraph evidence is shown to be relevant, trial judges must determine "if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the members, of by considerations of undue delay, waste of time, or needless presentation of cumulative evidence.'"[180] Further, judges must determine if the expert testimony offered by the polygraph examiner is helpful to the trier of fact; in so doing, the court held the judge must balance "(1) the soundness and reliability of the process or technique used in generating the evidence, (2) the possibility that admitting the evidence would overwhelm, confuse or mislead the jury, and (3) the proffered connection between the scientific research or test result to be presented, and particular disputed factual issues in the case.'"[181]

At least one member of the military bar has bemoaned publicly the lack of guidance that this language provides military counsel and judges.[182] The body of the opinion, however, suggests that the factors to which the court alluded include such things as whether the results indicate no deception (a results with typically lower error rates), whether the parties stipulated to the results ahead of the exam (perhaps maximizing the stress faced by the examinee);[183] whether this is the first exam the examinee has taken (an examinee without practice, and, presumably unskilled with countermeasures) and whether the adverse party was allowed to observe the examination (to obtain any evidence to challenge the administration of the exam).[184]

Another source of clarification of the Gipson opinion is in its progeny--the cases that followed it. Just over two months after it decided Gipson, CMA reversed a conviction because a military prosecutor used polygraph results indicating deception, to rebut an accused's suggestion on the stand that he (the accused) made a pretrial statement in order to be allowed to go home. CMA rejected the prosecutor's argument that the polygraph evidence was admissible to rebut the issue of voluntariness. Although heavily reliant on the particular facts of the case, the court's decision demonstrated that Gipson was not a blanket acceptance of polygraph evidence in all cases, and reiterated the need to weigh the probative value of the evidence against its prejudicial effect.[185]

The day after the court's decision in Baldwin,[186] the issue of the extent of the use of polygraph evidence was resolved. In United States v. Abeyta,[187] the court held that polygraph evidence in the form of the expert testimony of the examiner does not become relevant to a court-martial proceeding unless and until the examinee testifies at trial: "[a]t best, the expert can opine whether the examinee was being truthful or deceptive in making a particular assertion at the time of the polygraph exam. It is then for the factfinder to decide whether to draw an inference regarding the truthfulness of the examinee's trial testimony."[188]

Finally, two recent CMA decisions resolved issues as to how much may be read into the Gipson decision. First, the court held that its decision does not extend to allow testimony that a witness was willing to take a polygraph exam, as that willingness has no probative value of the witness' truthfulness.[189] Also, the court has held that Gipson cannot be read to allow testimony of a human lie detector; specifically, absent some other showing of relevance, a psychiatrist may not give an opinion as to whether the accused was telling the truth.[190]

VI. CONCLUSIONS: THE FUTURE OF POLYGRAPH EVIDENCE IN THE MILITARY COURTS

If the President signs proposed MRE 707, the future is bleak for polygraph evidence in the military courts. As written, the results and its analysis use tired arguments that are refuted by scientific evidence now several years old. The analysis cites first to the "overwhelming influence" argument, taking the implication that jurors are inept into the realm of outright insult as the analysis states that conflicting polygraph evidence diverts the members' attention from a determination of guilt or innocence to a judgment of polygraph validity. this is an argument unfit for discussion, and specifically rejected by CMA.[191]

The debate over polygraph evidence in most instances is reduced to a debate over its validity. The latest scientific studies in the field conclude that polygraphy is reliable to a degree that far exceeds that of much of the evidence currently accepted in the courts, both civilian and military. Setting aside arguments stemming from simple ignorance of the science,[192] the greatest distrust of the science stems from the inability of the proponents of polygraph to point to the explanation of how the polygraph instrument measures deception, as opposed to other autonomic central nervous system stimuli. Put another way, the greatest weakness in the science is its inability to measure construct validity—the degree to which the technique measures what it is intended to measure. For the past 70 years, polygraphy experts have engaged in a process that is analogous to solving an algebraic equation with two variables. Widely accepted is the notion that the unknown variable of polygraph validity is a function of the combination of construct and criterion validity. The scientists over the years have striven to improve the accuracy of polygraph examinations, measuring the unknown variable of criterion validity. If the value sought for validity is posited as near 100%, and criterion validity has been shown to be at or over 90%, then construct validity is determinable, once the science resolves what, precisely, is the relationship between construct and criterion validity. Here lies the most significant gap in the research. Identified in the 1983 OTA report, and unresearched since then, this need for research into

the relationship between the two measures of validity is being addressed in several proposals for grants to fund the research.[193]

This research task notwithstanding, the science has developed to the point that satisfies the rules in most jurisdictions regarding the reliability of evidence. Accepting this fact, and rejecting the idea that jurors are susceptible to confusion over conflicting polygraph testimonies, or are unable to give appropriate weight to polygraph evidence, little is left to the basis for the proposed MRE 707. It is, in essence, an edict from the JSC that rejects CMA's decision in favor of an intuition that polygraphy is unreliable. All that remains is the ominous generalization that use of polygraph evidence "impinges upon the integrity of the judicial system."[194] The JSC, by citing a California state court opinion, merely restates the same arguments relating to the inability of the factfinders to have independent, intelligent thought, and to analyze trials by virtue of the entire body of evidence presented, not simply to substitute polygraphy for that purpose.

The idea of an entire body of evidence at trial is precisely what CMA has emphasized in its opinion in the Gipson case. That opinion does not simply invite polygraph evidence for proof of the issue of guilt or innocence. Rather, the court was careful to identify the limits of relevance of polygraph evidence. Between its decisions in Gipson and Abeyta,[195] the court has made clear that polygraph evidence only becomes relevant when the examinee testifies at trial, thus putting his or her credibility for truthfulness in issue. Once the witness' credibility is in issue, nondeceptive or deceptive results from a polygraph exam may be convincing as to whether the witness was truthful at the time of the exam, and, by inference, is more likely—or less likely—to be truthful in his testimony in court. Fully explained to the jury through thorough instructions from the judge, polygraph testimony is put in its proper light, and becomes only one ingredient in the entire mix of evidence which makes up a verdict.

The future of polygraph evidence in courts-martial also depends on how the courts at various levels respond to influences from several different directions. Beginning at the first level, chronologically, judges and counsel are subject to influence from at least two different sources every time the issue is raised at trial. First, prosecutors are constrained to follow whatever policy decisions have been made by the chief prosecutors of their respective services.[198] Second, counsel and judges at the trial level must meet the challenge of understanding the science, recognizing the strengths and weaknesses of polygraph evidence in general, as well as those in the proffered exam. Unlike other scientific evidence, there is not a great wealth of case law available to help in the various relevancy and expert testimony balancing tests required by Gipson. The intermediate appellate courts in the military are likewise charged with the burden of understanding polygraph evidence, because these courts retain the power to review cases not only on issues of law, but also on issues of fact. Faced not only with the issue of whether trial judges abused their discretion in either accepting or rejecting proffered polygraph evidence, these intermediate courts are empowered to review anew the evidence presented and to assess whether, as a matter of fact rather than a matter of law, the evidence failed to rise to a level that warranted acceptance or exclusion.

Finally, and most disturbing, CMA is faced with a conflict with the potential to rise to a constitutional crisis. If the proposed MRE 707 is signed by the President, Gipson and its progeny would be effectively overturned. The process of review and amendment of the Manual for Courts-Martial would, in one sense, be established as an alternative avenue for appeal from decisions of CMA. More importantly, it puts in the hands of the service secretaries the ability to substitute unsupportable rules of law in the place of reasoned decisions of the military trial judiciary. Established as it was for the purpose of giving meaning to the idea of military justice, the military courts should be entrusted with the authority to decide how and when they will accept polygraph evidence. Any proposal to circumscribe that authority must, at a minimum, be subject to open and public debate, both as to the propriety of affecting the judiciary's decisions, and as to the merits of the proposed change. At the heart of it, public debate is critical because, to paraphrase Mr. Justice Stewart, when a rule such as proposed MRE 707 sets out to impede, as this one does, the discovery of truth in a court of law, it also sets out to impede the doing of justice.

Footnotes

[1] 293 F.1013 (D.C.Cir. 1923).

[2] Specifically, courts in the First, Fourth, Sixth, Seventh, Eighth and Ninth federal circuits have left the issue of admissibility to the trial judge's discretion, which has generally been exercised to exclude polygraph evidence. For a discussion of the use of polygraph evidence in federal and state courts, see, infra notes 142-169 and accompanying text.

[3] See, infra notes 170-189 and accompanying text.

[4] CMA consists of a 3-member panel of civilian judges appointed by the President for 15-year terms. A court of last resort within the military, CMA will hear appeals on issues of law from the various services' intermediate appeals courts. Decisions by CMA may be appealed to the United States Supreme Court.

[5] 24 M.J. 246 (C.M.A. 1987).

[6] Id. at 253.

[7] Id. See also, infra notes 74-113, and accompanying text.

[8] The exact language of the proposed rule and analysis follows:

Rule 707. Polygraph Examinations.
(a) Notwithstanding any other provisions of law, the results of a polygraph examination, the opinion of a polygraph examiner, or any reference to an offer to take, failure to take, or taking of a polygraph examination, shall not be admitted into evidence.
(b) Nothing in this section is intended to exclude from evidence statements made during a polygraph examination which are otherwise admissible.

Analysis: Rule 707. Polygraph Examinations.
Rule 707 is new and is similar to Cal.Evid.Code Sec. 351.1 (West 1988 Supp). The Rule prohibits the use of polygraph evidence in courts-martial and is based on several policy grounds. There is a real danger that court members will be misled by polygraph evidence that "is likely to be shrouded with an aura of near infallibility" [U.S. v. Alexander, 526 F.2d 161, 168-169 (8th Cir. 1975)]. To the extent that the members accept polygraph evidence as unimpeachable or conclusive, despite cautionary instructions from the military judge, the members' "traditional responsibility to collectively ascertain the facts and adjudge guilty or innocence is preempted" (id.). There is also a danger of confusion of the issues, especially when conflicting polygraph evidence diverts the members' attention from a determination of guilt or innocence to a judgment of the validity and limitations of polygraphs. This could result in the courts-martial degenerating into a trial of the polygraph machine [State v. Grier, 300 S.E.2d 351 (N.C. 1983)]. Polygraph evidence also can result in a substantial waste of time when the collateral issues regarding the reliability of the particular test and qualifications of the specific polygraph examiner must be litigated in every case. Polygraph evidence places a burden on the administration of justice that outweighs the probative value of the evidence. The reliability of polygraph evidence has not been sufficiently established and its use at trial impinges upon the integrity of the judicial system [See, People v. Kegler, 242 Cal.Rptr. 897 (Cal.App. 2 Dist. 1987)]. Thus, this amendment adopts a bright-line rule that polygraph evidence is not admissible by any party to a court-martial even if stipulated to by the parties. This amendment is not intended to accept or reject U.S. v. Gipson, 24 M.J. 343 (C.M.A. 1987)[sic], concerning the standard for admissibility of other scientific evidence under Mil. R. Evid. 702 or the continued vitality of Frye v. United States, 293 F. 1013 (D.C. Cir. 1923). Finally, section (b) of the rule ensures that any statements which are otherwise admissible are not rendered inadmissible solely because the statements were made during a polygraph examination.

[9] W. Nardini, The Polygraph Technique: An Overview, 15 Journal of Police Science and Administration 239 (No. 3, 1987).

[10] G.H. Barland, The polygraph test in the USA and elsewhere, in The Polygraph Test: Lies, Truth and Science, 73-95, 75 (A. Gale ed. 1988).

[11] Nardini, supra note 9, at 239.

[12] Id.

[13] Barland, supra note 10, at 75.

[14] Nardini, supra note 9, at 240.

[15] Office of Technology Assessment, U.S. Congress, Scientific Validity of Polygraph Testing: A Research Review and Evaluation--A Technical Memorandum 6 (1983)(hereafter cited as OTA Report).

[16] Nardini, supra note 9, at 242.

[17] B. Kleinmuntz. Trial by polygraph: a costly and destructive way of detecting truth. Trial, 32, 33 (September 1985).

[18] Nardini, supra note 9, at 242.

[19] OTA Report, supra note 15, at 11.

[20] Nardini, supra note 15, at 11.

[21] OTA Report, supra note 15, at 11.

[22] See, infra notes 39-73, and accompanying text.

[23] OTA Report, supra note 15, at 12.

[24] D.C. Raskin, Polygraph techniques for the detection of deception, in Psychological Methods in Criminal Investigation and Evidence 247-296, 256 (D.C. Raskin ed., in print). Specifically, the examiner must be satisfied that the examinee is neither taking medications nor suffering from a physical or mental condition that would interfere with autonomic nervous system responses.

[25] OTA Report, supra note 15, at 12.

[26] Id.

[27] Raskin, supra note 24, at 256.

[28] Id. at 257.

[29] See, generally, G.H. Barland and D.C. Raskin, Detection of deception in Electrodermal Activity in Psychological Research 418-71 (W.F. Prohasky and D.C. Raskin eds. 1973).

[30] OTA Report, supra note 15, at 14.

[31] Id. at 14.

[32] See, generally, J.E. Reid and F.E. Inbau, Truth and Deception--The Polygraph Technique (3d ed. 1977).

[33] Raskin, Kircher, Honts and Horowitz, A Study of the Validity of Polygraph Examinations in Criminal Investigation, (unpublished) Final Report to the National Institute of Justice 19 (Grant No. 85-IJ-CX-0040), U. of Utah May 1988)(hereafter cited as Raskin, et al., NIJ Study). For greater detail on the types of questions used and how they are compared, see infra notes 39-73, and accompanying text.

[34] D.C. Raskin and M. Steller, Assessing credibility of allegations of child sexual abuse: Polygraph examinations and statement analysis, in Criminal Behavior and the Justice System: Psychological Behavior 290-302, 292 (Wehener, et al., eds. 1988).

35 Barland, supra note 10, at 85.

36 See, generally, Raskin, et al., NIJ Study, supra note 33.

37 Conversation between the author and Dr. Charles Honts, Research Division, Department of Defense Polygraph Institute, Ft. McClellan, Alabama, on 15 September, 1989.

38 Compare, e.g., Raskin, et al., NIJ Study, with D.T. Lykken, The case against the polygraph, in The Polygraph Test: Lies, Truth and Science 111-125 (A. Gale ed. 1988).

39 Raskin, supra note 24, at 248.

40 The latter technique, the concealed knowledge test, is also known as the guilty knowledge test. See, e.g., Lykken, supra note 38. Another author rejects that name, arguing that "information cannot be guilty, ... the test is designed to determine if the subject is attempting to conceal information." Raskin, supra note 24 at 276 (Emphasis added.)

41 OTA Report, supra note 15, a 22.

42 Raskin, supra note 24, at 275-76.

43 Id. at 277. Known as spot reactions, this phenomenon of greater physiological response to timing or location of questions has been studied since the early development of polygraphy. It is overcome by varying the location of the correct alternatives in the information tests, and varying the location of the several types of questions in the deception test techniques. See, infra notes 49-71, and accompanying text.

44 Raskin's example is one where a ring was stolen from Room 820. The answer to test question on the floor number is obvious if it follows the question which includes five alternative room numbers that begin with the number 8. Raskin, supra note 24, at 278.

45 See, infra notes 49-71, and accompanying text.

46 OTA Report, supra note 15, at 23.

47 Raskin, supra note 24, at 279.

48 Lykken, supra note 38, at 122-23.

49 Raskin, supra note 24, at 281.

50 Id. at 248.

51 Id. When used in conjunction with criminal investigation, the best relevant questions are crafted with simple, clear language which is free of legal conclusions and emotional or state-of-mine assessments. Thus, the question: "Did you rape Jane Doe?" should be replaced with "Did you use physical force or threats to get Jane Doe to have sex with you?" Likewise,

rather than ask "Did you intend to harm John Doe?" the examiner should simply ask "Did you hit John Doe?"

[52] See, W. M. Marston, Systolic blood pressure symptoms of deception, 2 Journal of Experimental Psychology, 117-1632 (1917).

[53] Irrelevant questions are designed to have very little or no emotional effect on the examinee. Frequently asked irrelevant questions include: "Is you name John?" "Are you sitting down?" and "Were you born in the United States?" OTA Report, supra note 15, at 16.

[54] Raskin, supra note 24, at 250.

[55] J.A. Podlesny and D.C. Raskin, Effectiveness of techniques and physiological measures in the detection of deception, 15 Psychophysiology 344-58 (1978).

[56] OTA Report, supra note 15, at 17.

[57] Raskin, supra note 24, at 251.

[58] OTA Report, supra note 15, at 17. In at least one state (Utah) the general consensus against the relevant-irrelevant test is formalized by the local licensing regulations into a proscription against use of the technique unless the licensing board grants prior permission, which permission has never been granted. See, D.C. Raskin, The polygraph in 1986: Scientific, professional and legal issues surrounding application and acceptance of polygraph evidence, 1 Utah Law Review 29, 34 (1986).

[59] The control question test technique is the most commonly used technique for criminal investigation, not only in the United States, but also in Canada, Japan, Turkey, South Korea and Israel. See, G.H. Barland, The polygraph test in the USA and elsewhere, in The Polygraph Test: Lies, Truth and Science (Gale, A. ed. 1988).

[60] W.G. Summers, Science can get the confession, 15 Fordham Law Review 334-54 (1939).

[61] D.C. Raskin and M. Steller, Assessing credibility of allegations of child sexual abuse: Polygraph examinations and statement analysis, Criminal Behavior and the Justice System: Psychological Behavior (Wegener, et al., eds. 1988).

[62] D.C. Raskin, G. H. Barland and J.H. Podlesny, "Validity and reliability of detection of deception," Report to the National Institute of Law Enforcement and Criminal Justice 2 (1978).

[63] J.E. Reid, A revised questioning technique in lie detection tests, 37 Journal of Criminal Law, Criminology, and Political Science 542-47 (1947).

[64] See, supra notes 23-28 and accompanying text.

[65] OTA Report, supra note 15, at 20.

[66] Raskin, supra note 24, at 257-58.

[67] See, supra note 43.

[68] See, supra notes 32-34 and accompanying text.

[69] See, supra notes 41, 42 and accompanying text.

[70] See, supra note 67 and accompanying text. The other type of symptomatic question asks if there are any other issues, outside what was discussed in the pretest interview, that have the examinee worried. These outside issues are of concern to the examiner as they tend to absorb the examinee's anxiety and cause a dampening of reaction to the test questions. See, also, OTA Report, supra note 15, at 21.

[71] OTA Report, supra note 15, at 21. An example of such a control question in a case involving a larceny would be, "Before you graduated from college, did you ever take anything that didn't belong to you?" The DoD Polygraph Institute at Fort McClellan, Alabama, teaches the modified general question test technique in its basic course for polygraphers sent for training by the Department of Defense, the National Security Agency, the Treasury Department, the U.S. Postal Service, and many state police agencies.

[72] See, supra notes 27, 28, and accompanying text.

[73] C.R. Honts and D.C. Raskin, A field study of the validity of the directed lie control question, 16 Journal of Police Science and Administration 56-61, 57 (No. 1, 1988).

[74] OTA Report, supra note 15, at 37-38.

[75] Id.

[76] "Laboratory studies" as used here refer to simulations of locations and/or events. Researchers often recruit examinees from the general population, university campuses, prisons or professional actors' schools or agencies. Typically the laboratory study involves a plausible mock crime and either monetary or other incentives for a particular result, usually a nondeceptive outcome on the exam. As used here, "laboratory studies" is a term synonymous with "mock crime" or "analog" studies. See, e.g., OTA Report, supra note 15, at 61-79.

[77] "Field studies" as used here refer to studies in which the research exercises no control over the crime or other event which is the basis for the exam. Thus, the researcher doesn't assign roles to the examinees. Typically field studies involve collecting and blindly reevaluating charts and files on exams conducted in actual crimes or screening cases. "Field studies" as used here is synonymous with the terms "real case" and "actual criminal case" studies. See, e.g., S. Abrams, Polygraph validity and reliablity, 17 Journal of Forensic Sciences 313-27 (1973).

[78] OTA Report, supra note 15, at 38.

[79] See, supra notes 39-74 and accompanying text.

[80] OTA Report, supra note 15, at 38.

[81] See, supra note 60 and accompanying text.

[82] OTA Report, supra note 14.

[83] OTA Report, supra note 14, at 96.

[84] Raskin, supra note 24, at 267.

[85] OTA Report, supra note 15, at 62.

[86] See, infra notes 102-113 and accompanying text.

[87] OTA Report, supra note 15, at 101-102.

[88] Raskin, supra note 24, at 266.

[89] D.T. Lykken, The validity of tests: Caveat Emptor, 27 Jurimetrics Journal 263-70 (Spring 1987).

[90] D.C. Raskin and J.C. Kircher, The validity of Lykken's criticism: Facts or fancy? 27 Jurimetrics Journal 271-77, 271 (Spring 1987).

[91] Id. at 274.

[92] Id. at 276. Professor Lykken was given the last word in the debate, declaring he had "neither the space nor the patience" to address Raskin and Kircher's allegations--so he did not. What he replied with was an assertion that the data used by Raskin and Kircher were derived from studies which did not meet with his (Lykken's) methodological standards; what those standards were and how the studies failed to meet them were not specified. Also, Lykken dismissed computer-aided research as biased by computer programmers: "garbage in, garbage out." D.T. Lykken, Reply to Raskin and Kircher, 27 Jurimetrics Journal 278-82, 280, 282 (Spring 1987).

[93] Lykken, supra note 38, at 112-115.

[94] Id. at 111.

[95] See, supra note 88 and accompanying text.

[96] Lykken, supra note 38, at 116-117.

[97] Id. at 123.

[98] Id. at 121-23.

[99] D.C. Raskin, Does science support polygraph testing? in The Polygraph Test: Lies, Truth and science 96-110, 98-102 (A. Gale ed. 1988).

100 Id. at 105-106.

101 Raskin, et al. NIJ Study, supra note 33, at 54.

102 Id. at 3.

103 See, M.T. Orne, Implications of laboratory research for the detection of deception, in Legal Admissibility of the Polygraph 94-119 (N. Ansley ed. 1975).

104 Raskin, supra note 24, at 287.

105 L.A. Gustafson and M.T. Orne, Effects of perceived role and role success on the detection of deception, 49 Journal of Applied Psychology 412-17 (1965).

106 Id. at 287-88. For a discussion of how the friendly polygrapher theory plays a role in decisions of the admissibility of polygraph evidence, see, infra notes 149-154, 156-170 and accompanying text.

107 C.R. Honts, Interpreting research on polygraph countermeasures, 15 Journal of Police Science and Administration 204-09, 204 (No. 3 1987).

108 Id. at 205.

109 C.R. Honts, R. L. Hodes and D.C. Raskin, Effects of physical countermeasures on the physiological detection of deception, 70 Journal of Applied Psychology 177-87, 184 (No. 1, 1985).

110 Id. at 181.

111 C.R. Honts, D.C. Raskin and J.C. Kircher, "Countermeasures and the Detection of Deception" (unpublished paper presented at the 94th Annual Convention of the American Psychological Association, 24 August 1986, Washington, D.C.)

112 Raskin, supra note 24, at 285.

113 Honts, et al., supra note 109, at 185.

114 Id.

115 "In all criminal prosecutions, the accused shall enjoy the right ... to have compulsory process for obtaining witnesses in his favor ..." U.S. Constitution, Amendment VI.

116 United States v. Burr, 25 Fed. Cas. 30 (C.C.D. Vir. 1807)(No. 14, 692d.)

117 Id. at 33-37.

118 Washington v. Texas, 388 U.S. 14 (1967).

[119] Id. at 19.

[120] Id.

[121] id. at 22, citing Rosen v. United States, 245 U.S. 467, 471 (1918).

[122] 410 U.S. 284 (1973).

[123] Id. at 302.

[124] United States v. Alexander, 526 F.2d 161, 168 (8th Cir. 1975).

[125] C.M. Sevilla, Polygraph 1984: Behind the closed door of admissibility, 16 U.W.L.A. Law Review 5-26, 17 (1984), citing Carlson, Pasano & Jannunzzo, The effect of lie detector evidence on jury deliberation: An empirical study, 5 Journal of Police Science and Administration 148; Markwart & Lynch, The effect of polygraph evidence on mock jury decision-making, 7 Journal of Police Science and Administration 324 (1979).

[126] Sevilla, supra note 125, at 17, citing Tarlow, Admissibility of polygraph evidence in 1975: An aid in determining credibility in a perjury-plagued system, 26 Hastings Law Journal 917 (1975); and United States v. Estrada-Lucas, 651 F.2d 1261 (9th Cir. 1980)(jury convicts despite favorable polygraph results).

[127] Sevilla, supra note 125, at 18, quoting People v. Johnson, 32 Cal.App.3d 988, 1003 (1973)(Gardner, P.J., dissenting). See, also, United States v. Ridling, 350 F.Supp. 90, 98 (E.D. Mich. 1972). A study done in Wisconsin courts revealed that the majority (75%) of the attorneys involved in the study did not believe that the jury disregarded significant evidence because of polygraph testimony, nor did the testimony disrupt the trial. R.B. Peters, A survey of polygraph evidence in criminal trials, 68 American Bar Association Journal 162.

[128] See, supra notes 83-114 and accompanying test.

[129] Ennis and Litwack, Psychiatry and the presumption of expertise: Flipping coins in the courtroom, 62 California Law Review 693 (1974).

[130] Westen, The compulsory process clause, 73 Michigan Law Review 71, 82 (1974).

[131] Gipson, supra note 5, at 252. Studies have shown that the reliability of polygraph examinations of victims goes down for several reasons: victims are likely to show strong physiological reactions to relevant questions due to the trauma associated with the event and they can also react with indignation at having to prove their credibility despite the physical and psychological injuries they have suffered. See, Raskin, supra note 58, at 54.

[132] See, S.D. Warren and L.D. Brandeis, The right to privacy, 4 Harvard Law Review 193 (1890).

133 Olmstead v. United States, 277 U.S. 438 (1928).

134 Griswold v. Connecticut, 381 U.S. 479 (1969).

135 Roe v. Wade, 410 U.S. 113 (1973).

136 Nixon v. Administrator of General Services, 433 U.S. 425 (1977).

137 C.M. Wiseman, Invasion by polygraph: An assessment of constitutional and common law parameters, 32 St. Louis University Law Review 27-74, 37, 46 (1987).

138 Id. at 42.

139 Id. at 47, quoting Schmerber v. California, 384 U.S. 757 (1966).

140 See, generally, Schneckloth v. Bustamonte, 412 U.S. 218 (1973)(consent to search); Edwards v. Arizona, 451 U.S. 477 (1981)(waiver of 5th amendment rights).

141 Wiseman, supra note 137, at 46.

142 See, e.g., Clinton, The right to present a defense: An emergent constitutional guarantee in criminal trials, 9 Indiana Law Review 711 (1976); Westen, The compulsory process clause, 73 Michigan Law Review 71 (1973); Comment, admission of polygraph results: A due process perspective, 55 Indiana Law Journal 157 (1979-80); Note, Chambers v. Mississippi: Due process and the rules of evidence, 35 University of Pittsburgh Law Review 725 (1974); 8 J. Wigmore, Wigmore on Evidence, Sec. 2191 (J. McNaughton rev. ed. 1961).

143 See, generally, Gianelli and Imwinkelreid, Scientific Evidence 244-56 (1986); Ansley, Quick Reference Guide to Polygraph Admissibility, Licensing Laws and Limiting Laws (12 ed. 1987); and Admissibility of lie detector test taken upon stipulation that the result will be admissible in evidence, 53 ALR 3d 1005-1019.

144 Those states are: Alabama [Ex Parte Clements, 447 So.2d 695 (Ala. 1984)]; Arizona [State v. Montes, 667 P.2d 191 (Ariz. 1983)]; California [Witherspoon v. Superior, 183 Cal.Rptr 421 (1982)]; Florida [Davis v. State, 520 So.2d 572 (Fla.App. 1988)]; Georgia [Bosworth v. State, 342 S.E.2d 22 (Geo. 1986)]; Idaho [State v. Fain, 774 P.2d 252 (Idaho 1989)]; Indiana [Lehiy v. State, 501 N.E.2d 451 (Ind. 1986)]; Iowa [State v. Marti, 290 N.W.2d 570 (Iowa 1980)]; Kentucky [Workman v. Commonwealth, 78 S.W.2d 279 (1979)]; Nevada [Aguilar v. State, 639 P.2d 533 (Nev. 1982)]; New Jersey [State v. Hollander, 493 A.2d 563 (N.J. 1985)]; Ohio [State v. Souel, 372 N.E.2d 1318 (1978)]; Utah [State v. Revetevano, 681 P.2d 1265 (Utah 1984)]; Washington [State v. Grisby, 647 P.2d 6, cert. denied, 103 S.Ct. 1205 (Wash. 1982)]; and Wyoming [Cullin v. State, 565 P.2d 445 (1977)]. The above-cited case out of Idaho is remarkable because it is less than one year old, and reverses the practice of Idaho courts to exclude polygraph evidence. Similarly, in December of 1989, the Supreme Judicial Court of Massachusetts reversed that state's practice of accepting polygraph evidence on

stipulation, declared that polygraph evidence has not gained general acceptance in the scientific community, and returned to the Frye rule. Commonwealth v. Mendes, 406 Mass. 201 (1989).

145 Note, State v. Dean: A compulsory process analysis of the inadmissibility of polygraph evidence, Wisconsin Law Review 237-75, 253, n. 100 (1984)(hereafter cited as Note, State v. Dean), citing State v. Nemoir, 62 Wis.2d 206, 214 N.W.2d 297 (1972); Meyer v. State, 25 Wis.2d 418, 130 N.W.2d 848 (1964); State v. Baker, 16 Wis.2d 364, 114 N.W.2d 426 (1962); State v. Perlin, 268 Wis. 529, 68 N.W.2d 32 (1955); LeFavre v. State, 242 Wis. 416, 8 N.W.2d 288 (1943).

146 62 Wis.2d 730, 216 N.W.2d 8 (1974).

147 Id. at 741, 216 N.W.2d at 13.

148 Id. at 738-39, 216 N.W.2d at 12-13.

149 Id. at 742-43, 216 N.W.2d at 14-15. The other three conditions precedent to admissibility were that the trial court had the discretion to rule on the admissibility of the test (presumably after reviewing it for adherence to proper polygraph methods); the opponent to the evidence retained the right to cross-examine the expert who presented the evidence at trial; and trial judge was required to give a cautionary instruction to the jury on the limited relevance of the polygraph evidence (going only to the credibility of the examinee at the time of the exam), and on the weight and effect of the expert polygrapher's testimony. Id.

150 Note, State v. Dean, supra note 145, at 255.

151 Lhost v. State, 85 Wis.2d 620, 642, 271 N.W.2d 121, 131 (1978). As previously discussed, studies exist to refute these purported effects of the friendly polygrapher. See, supra notes 104-106 and accompanying text.

152 Note, State v. Dean, supra note 145, at 257-58.

153 103 Wis.2d 228, 307 N.W.2d 628 (1981).

154 Note, State v. Dean, supra note 145, at 261. In Illinois, the state's high court held that a stipulation cannot change the legal standard in that state that polygraph evidence is inadmissible due to its disputed scientific reliability; absent the stipulation, the evidence would have been rejected, as a matter of law. People v. Baynes, 430 N.E.2d 1070 (Ill. 1981).

155 At about the same time Wisconsin was changing its rules on the admissibility of polygraph evidence, four other states--Oklahoma, Illinois, Colorado and North Carolina--moved away from acceptance of stipulated polygraphs to a complete exclusion of the evidence, for essentially the same reasons. Fulton v. State, 541 P.2d 871 (Okla. 1975); People v. Baynes, supra, note 154; People v. Anderson, 637 P.2d 354 (Col. 1981); and State v. Grier, 300 S.E.2d 351 (N.C. 1981).

156 Tafoya v. Baca, 702 P.2d 1001 (N.M. 1875).

157 In fact, this minority of one may disappear shortly: the majority opinion in the most recent polygraph case in New Mexico included an announcement that that court had serious reservations as to the continued use of polygraph evidence. Tafoya, 702 P.2d at 1005.

158 Israel et al. v. McMorris, 643 F.2d 458 (7th Cir. 1981), cert. denied, 455 U.S. 967 (1982).

159 Dean, supra note 153.

160 See, supra notes 118-123 and accompanying text.

161 Israel et al. v. McMorris, 643 F.2d at 464.

162 Israel et al. v. McMorris, 455 U.S. at 969 (Rehnquist, J., dissenting).

163 Israel et al. v. McMorris, 643 F.2d at 466.

164 United States v. Winter, 663 F.2d 1120 (1st Cir. 1981); United States v. Tucker, 773 F.2d 136 (7th Cir. 1985), cert. denied, 478 U.S. 1022 (1986); United States v. Gordon, 688 F.2d 42 (8th Cir. 1982); United States v. Ferris, 719 F.2d 1405 (9th Cir. 1983); United States v. Piccinonna, 885 F.2d 1529 (11th Cir. 1989). Per se exclusionary rules prevail in the federal courts of the District of Columbia and the remaining five circuits. See, United States v. Skeens, 494 F.2d 1050 (D.C.Cir. 1974); United States ex rel. Sadowy v. Fay, 284 F.2d 426 (2d Cir. 1960), cert. denied, 365 U.S. 850 (1961); United States v. Johnson, 816 F.2d 918 (3d Cir. 1987); United States v. Brevard, 739 F.2d 180 (4th Cir. 1984); United States v. Clark, 598 F.2d 994 (5th Cir. 1979), cert. denied, 449 U.S. 1128 (1981); United States. v. Soundingsides, 820 F.2d 1232 (10th Cir. 1987).

165 United States v. Miller, 874 F.2d 1255 (9th Cir. 1989).

166 Id. at 1261.

167 Id. at 1261-62, citing Tyler v. United States, 193 F.2d 24 (D.C.Cir. 1951), cert. denied, 343 U.S. 908 (1952)(polygraph revealed circumstances leading to confession); United States v. Campiles, 609 F.2d 1233 (7th Cir. 1979), cert. denied, 446 U.S. 954 (1980)(polygraph evidence rebutted challenge to voluntariness of confession); United States v. Johnson, 816 F.2d 918 (3d Cir. 1987)(no constitutional error when court advised that use of polygraph would be allowed to rebut a challenge to voluntariness of confession, and defendant chose not to challenge confession); United States v. Hall, 805 F.2d 1410 (10th Cir. 1986)(polygraph results indicating deception explained and rebutted defense challenge of a lack of full-scale police investigation).

168 Miller, 874 F.2d at 1261, quoting United States v. Falsia, 724 F.2d 1339 (9th Cir. 1983).

169 783 F.2d 1389 (9th Cir. 1986). The Miller opinion affirmatively stated that despite the fact that Brown was a civil case, its rejection of unstipulated polygraph evidence applied with equal force to criminal trials. See, Miller, 874 F.2d at 1261, n.1.

170 See, supra notes 104-106 and accompanying text.

171 United States v. Ford, 4 U.S.C.M.A. 611, 613, 16 C.M.R. 185, 187 (1954).

172 United States v. Hulen, 3 M.J. 275 (1977).

173 United States v. Martin, 13 M.J. 66 (C.M.A. 1982).

174 United States v. Mustafa, 22 M.J. 165 (C.M.A. 1986), cert. denied, 479 U.S. 953 (1986).

175 See, United States v. Adkins, 5 U.S.C.M.A. 492, 18 C.M.R. 116 (C.M.A. 1955)(Naval intelligence agent not qualified to express expert opinion on truthfulness); and United States v. Massey, 5 U.S.C.M.A. 514, 18 C.M.R. 138 (C.M.A. 1955)(Neither truth serum nor lie detector evidence admissible). For the most recent rejections of polygraph evidence prior to the Gipson decision, see, United States v. Ledlow, 11 U.S.C.M.A. 659, 29 C.M.R. 475 (C.M.A. 1960); United States v. Helton, 10 M.J. 820 (A.F.C.M.R. 1981).

176 See, United States v. Driver, 35 C.M.R. 870 (A.F.B.R. 1965), pet. denied, 35 C.M.R. 478 (1965).

177 United States v. Gaines, 20 M.J. 668 (A.F.C.M.R. 1985), pet. denied, 21 M.J. 98 (1985).

178 Gipson, 24 M.J. at 253.

179 Id.

180 Id. at 251, quoting Mil.R.Evid. 403.

181 Id. at 251, quoting United States v. Downing, 753 F.2d 1224, 1237 (3d Cir. 1985).

182 R. Cargill, United States v. Gipson: A leap forward or impetus for a step backward? The Army Lawyer, Department of the Army Pam. 27-50-191 27-31 (November 1988). Reprinted in Polygraph 18(1) 33-41.

183 Gipson, 24 M.J. at 249. But, see, supra notes 104-106 and accompanying text.

184 Id. at 255 (Everett, J. concurring).

185 United States v. Baldwin, 25 M.J. 54 (C.M.A. 1987).

186 Id.

187 25 M.J. 97 (C.M.A. 1987).

188 Id. at 98, quoting Gipson, 24 M.J. at 252-53. (Emphasis in the original.)

189 United States v. West, 27 M.J. 223 (C.M.A. 1988).

190 United States v. Hill-Dunning, 26 M.J. 260 (C.M.A. 1988).

191 See, Gipson, 24 M.J. at 253.

192 See, supra note 141 and accompanying text.

193 Information received by the author from Dr. Charles Honts, Department of Defense Polygraph Institute, Ft. McClellan, Alabama. During the conversation with Dr. Honts on 15 September 1989, he stated that several grant proposals on the subject of construct validity were being presented by polygraph experts at the University of Utah. As of this writing, no grants have been awarded.

194 Draft of Proposed Mil.R.Evid. 707, analysis, supra note 8, citing People v. Kegler, 242 Ca.Rptr. 897 (Cal.App. 2d Dist. 1987).

195 See, supra notes 178, 187 and accompanying text.

196 For example, the Air Force Judge Advocate General has decided that the best policy is to not offer polygraph evidence in any phase of a prosecution, up to and including government polygraph results which are completely inapposite to a proffered defense exam. Recognizing that the sister services have very different policies (Army policy allows prosecutors to use government polygraph exams to rebut defense exams; Navy policy puts no restriction at all on prosecutors' use of polygraph), the unpublished Air Force status reports leave open the possibility of change, if the anticipated flood of defense offered polygraph examinations ever materializes. "Polygraph Status Report," unpublished memorandum of Chief Appellate Government Counsel, Office of the United States Air Force Judge Advocate General (October 1987).

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SURVEY OF WISCONSIN ATTORNEY ATTITUDES TOWARD THE ADMISSIBILITY OF POLYGRAPH EXAMINATION RESULTS IN CRIMINAL CASES

By

Richard J. Phannenstill

In 1962 Arizona became the first state to admit polygraph examination results in court. State v. Valdez, 371 P.2s 894 (1962). Since then, 25 additional states have allowed polygraph results to be admitted in court by stipulation. However, since 1980, two states--Wisconsin and Missouri--which once admitted polygraph in court, struck down the admissibility of stipulated polygraph examinations. State v. Dean, 103 Wis.2d 228, 307 N.W.2d 628 (1981); State v. Biddle, 599 S.W.2d 182 (1980).

SURVEY

The purpose of this study was to determine whether or not there was general agreement among Wisconsin attorneys on the courts' ruling in Dean regarding polygraph examination results.

Between April 2, 1974 and September 1, 1981, polygraph examination results were admissible evidence in Wisconsin courts as set forth in Stanislawski (216 N.W.2d 8, 1974). In that decision the opinion of a polygraph examiner as to the truthfulness of an examinee was admissible evidence provided that:

(1) there was a written stipulation of the prosecutor, defense counsel and the examinee;

(2) the admission of such testimony was discretionary with the trial court;

(3) the opposing party had the right to cross-examine the expert; and

(4) the jury was given instructions that the examiner's testimony did not tend to prove/disprove any element of the crime with which a defendant was charged but at most tended only to indicate whether at the time of the examination the defendant was telling the truth.

On September 1, 1981, the Wisconsin Supreme Court overturned its Stanislawski decision by ruling in Dean that stipulated polygraph examination results were no longer admissible evidence in Wisconsin courts. The Dean case presented the following factual situation:

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On August 1, 1978 Arvid Dean was administered a polygraph examination at the Wisconsin Regional Crime Laboratory. The purpose of the polygraph examination was to investigate a hit and run accident, specifically to determine whether or not Dean struck a bicyclist while driving his car.

Before taking the polygraph examination, Dean signed a statement of consent in which he stated that he understood his Miranda rights, that he did not wish to consult with an attorney, that he knew he could not be required to take the polygraph examination without his consent, and that he consented to the polygraph examination. Based on the polygraph examination results, it was the opinion of the polygraph examiner that Dean was not truthful when he denied seeing the bicyclist and stepping on the brakes prior to the collision.

After being advised of his untruthfulness, Dean admitted he had stepped on the brakes prior to the collision; however, he continued to deny seeing the bike rider before his vehicle struck him. Dean was convicted at trial by a jury.

In his appeal Dean contended that entering into a Stanislawski stipulation was a tactical decision for defense counsel and that a defendant cannot voluntarily and intelligently execute the stipulation without advice of or a waiver of counsel or appropriate admonitions by the trial court (Dean, p. 231). The Court of Appeals held that the polygraph evidence was inadmissible and reversed the conviction. The Wisconsin Supreme Court affirmed the Court of Appeals' decision and concluded that, "the Stanislawski rule does not function in a manner which enhances the reliability of polygraph evidence and protects the integrity of the trial to the degree necessary to justify its continuance," (Dean, p. 229). Therefore, after September 1, 1981, polygraph test results were not permitted in any criminal proceeding in Wisconsin.

It must be made clear, however, that the Dean decision, although a significant reversal of the courts' Stanislawski ruling, did leave open the door for further reconsideration and future admissibility in that the court also stated that it "is not now prepared to say that polygraph evidence is so unreliable that it cannot be admitted under any circumstances." (Dean, p. 265).

In order to determine attorney's views on whether or not polygraph results should be excluded from Wisconsin courts, two groups of Wisconsin attorneys were surveyed: those who were known to have used the polygraph on at least one occasion between September 1, 1977 and September 1, 1981 and those attorneys who did not use the polygraph during this same four-year interval.

The first group (users) consisted of 360 attorneys who were known to have used the polygraph in a criminal case on at least one occasion between the Stanislawski and Dean decision. These attorneys were every prosecutor, judge, public defender and defense attorney who had a defendant submit to a polygraph examination conducted at the Milwaukee office of John E. Reid & Associates, Inc., between 1977 and September 1, 1981. Some attorneys, of course, had used numerous polygraph examinations during this time. For

example, one defense attorney had used the polygraph in non-stipulated cases in excess of 100 times between the Stanislawski and Dean decisions. Even though many attorneys had made multiple use of the polygraph, only one questionnaire was sent per attorney. Of the 360 attorneys in this group 1982 (53%) had offices in the Milwaukee area; the remaining 168 (47%) had offices in 42 other Wisconsin cities.

A second group (non-users) of 360 attorneys was drawn randomly from the 1982-83 Wisconsin Academy of Trial Lawyers Directory. the use of the polygraph by members of this group between 1975 and September 1, 1981 was unknown. However, in order to avoid duplication in the user and non-user groups, the name of each attorney in the first group was cross-checked with those listed in the Wisconsin Academy of Trial Lawyers Directory. Those attorneys listed in the directory and also in the "user group" were deleted from the directory listing. Then, using a table of random numbers, the remaining names in the directly were sampled randomly. In this sample, 106 (30%) attorneys were located in Milwaukee; the remaining 254 (70%) attorneys were from 81 other Wisconsin cities.

All attorneys in both groups (users) and (non-users) were mailed an identically worded questionnaire, a letter explaining the survey, a brief description of the Stanislawski case facts, and a stamped return envelope. The brief survey instructions requested the recipient's views on a number of issues related to the use of the polygraph in criminal cases in light of the Dean decision. Although the attorneys were not advised they had been classified as "users" and "non-users", the printed surveys (answered anonymously) were color-coded to separate the responses from each group.

RESULTS

When totaled, 160 attorneys responded out of the 720 (22%) that were sent surveys. These respondents then were regrouped into users and non-users based on the fact that some of the respondents in the original "non-User" group indicated they had used polygraph examinations; they, therefore, were re-classified as "users."

After this reclassification, 113 (71%) of the respondents were recategorized in the "user" group; 47 (29%) remained in the "non-user" group. Of the 113 respondents in the user group, 61 (54%) said they used the polygraph under non-stipulated conditions, 48 (42%) indicated they had stipulated to the admissibility of at least one polygraph examination and 4 (4%) failed to indicate the manner in which they had utilized the polygraph. Pursuant to Stanislawski, the number of stipulated polygraph examinations conducted in the four years preceding Dean ranged from only once for 21 attorneys to 20 or more times each for three attorneys. the average number of stipulated examinations conducted during this time period for each user who responded was 4.6.

Of the 48 respondents in the user group who had used the polygraph per State v. Stanislawski, the data show the majority of these users (71%) did not feel that such evidence was disruptive of the jury system, whereas only 6% felt polygraph evidence did disrupt the jury. Twenty-six (54%) of these

respondents also did not think that polygraph evidence confused the jury; only 6% did feel it confused the jury.

The table (page 67) shows a comparison of the responses of the 113 users to those of the 47 non-users to five questionnaire items about the usefulness of polygraph evidence. As shown, a majority of these attorneys, 84 (74%) users and 32 (68%) non-users, favor the admissibility of polygraph examination results in criminal cases where there is a prior stipulation agreed upon by both sides. Only 10 (9%) users and 5 (11%) non-users felt that polygraph examination results should not be admissible as evidence; 15 (13%) users and eight (17%) non-users were undecided on the issue.

In reference to a question about how easily polygraph results could be understood, 65 (58%) of the user and 25 (53%) of the non-users felt polygraph evidence presented in court can be understood sufficiently by a lay person in order for them to give it appropriate weight as evidence. Twenty (18%) users and nine (19%) non-users disagreed and 25 (22%) users and 11 (24%) non-users were undecided.

Regarding the issue of whether a jury would accept polygraph evidence blindly in court and discount contrary evidence or testimony, 73 (65%) users and 22 (47%) non-users felt that if polygraph evidence were presented in court, juries would not accept blindly the examiner's opinion and discount contrary evidence or testimony. Seventeen (15%) users and 12 (26%) non-users felt that juries indeed would blindly accept polygraph results and discount contrary evidence or testimony. Of both users and non-users, 17 (15%) and nine (19%), respectively, were undecided on this issue.

Ninety-four (83%) of the users and 33 (70%) of non-users agreed that a person involved in a criminal case should have the right to stipulate voluntarily to a polygraph examination regarding the offense of which he/she is charged. Only 9 (8%) users and 4 (9%) non-users disagreed. In addition, 88 (78%) attorneys who have used the polygraph, and 25 (53%) who have not, agreed that legislation should be introduced in Wisconsin to allow people involved in criminal cases to stipulate to the results of a polygraph examination. Only 10 (9%) users and 8 (17%) non-users disagreed.

Another questionnaire item surveyed in the user group was whether or not polygraph admissibility was beneficial to those parties involved in a criminal case, namely the prosecutor, defense, defendant and finder-of-fact. Ninety (80%) respondents felt polygraph admissibility as in Stanislawski was beneficial to the prosecutor, defense, defendant and finder-of-fact, while only 5 (4%) respondents felt that the admissibility of polygraph was not beneficial to anyone. Eighteen (16%) of the respondents failed to answer the question.

CONCLUSION

The results of this study show that a majority (83%) of Wisconsin attorneys who have used polygraph examinations in either a stipulated or non-stipulated situation favor its use in court proceedings. Interestingly, on this same issue, even a majority (70%) of those who were not polygraph users held views similar to those who were. The polygraph "user" attorneys

also clearly indicated that the use of polygraph examinations (in instances such as was permitted in Stanislawski) was beneficial to the parties involved in a criminal case; only 4% felt otherwise. Therefore, there is some reason to question the merit in court decisions, such as the Dean case, in which polygraph examination results are prohibited completely for all court purposes. Certainly, the opinions and views of the attorneys surveyed here do not support the position that polygraph results are of no value in court proceedings.

The views of these surveyed attorneys (particularly those polygraph "users") are consistent with those findings reported in two earlier field studies on the value of polygraph examination results in court proceedings. In the first study, Peters (American Bar Association Journal, 1982) evaluated the outcomes of 220 court-stipulated polygraph examinations. In these examinations the examiner rendered a definite opinion as to the examinees' truthfulness or untruthfulness in 172 cases; of these court cases, the vast majority was resolved consistent with the opinion rendered by the polygraph examiner. In the second study, Phannenstill (Journal of Family Law, 1982) investigated the outcomes of stipulated polygraph examinations in 370 different paternity proceedings. In these proceedings the examination results were useful to the court in establishing the defendant as the father in 217 (66%) of the cases. The defendant was shown by polygraph results to have been wrongly accused of paternity in five (2%) of the cases. Furthermore, as part of the paternity proceedings each complainant signed a sworn statement in which there was a denial of sexual intercourse with a male other than the defendant during the period of possible conception. Of the 111 complainants who were advised that their polygraph results showed their untruthfulness, 76 (68%) admitted that they had lied to the court about the paternity of their child.

It is perhaps of some interest to make a further note about the Dean case. In that case, the polygraph examiner found that Dean was not truthful in his answers to questions about a hit and run accident. When told of his examination results Dean admitted that he had lied. His confession, resulting from the polygraph examination, certainly helped the trial court jury to determine Dean's involvement in the offense.

Based on the results of this study, as well as those reported earlier, it is clear that polygraph examination results can be very useful in court proceedings. Court decisions such as in Stanislawski in which polygraph examinations are stipulated may be preferable to those in which such examinations are uniformly prohibited. As shown in this study, the experience of attorneys in regard to the usefulness of polygraph examinations has been generally positive and the concerns about disruption to the trial process are not consistent with that experience.

OPINIONS OF ATTORNEYS REGARDING THE USE OF POLYGRAPH RESULTS IN COURT PROCEEDINGS

Question	Users N (%)	Non-Users N (%)
1. Polygraph results should be admissible as evidence in criminal cases where there is a prior stipulation agreed upon by both sides.		
AGREE	84(74%)	32(68%)
DISAGREE	10(9%)	5(11%)
UNDECIDED	15(13%)	8(17%)
NO ANSWER	4(4%)	2(4%)
2. Polygraph evidence presented in court can be sufficiently understood by a lay person in order for them to give it appropriate weight as evidence.		
AGREE	65(58%)	25(53%)
DISAGREE	20(18%)	9(19%)
UNDECIDED	25(22%)	11(24%)
NO ANSWER	3(2%)	2(4%)
3. If polygraph evidence were presented in court, juries would blindly accept the examiner's opinion and discount contrary evidence or testimony.		
AGREE	17(15%)	23(26%)
DISAGREE	73(65%)	22(47%)
UNDECIDED	17(15)	9(19%)
NO ANSWER	6(5%)	4(8%)
4. A person involved in a criminal case should have the right to stipulate voluntarily to a polygraph examination concerning the offense of which he/she is charged.		
AGREE	94(83%)	33(70%)
DISAGREE	9(8%)	4(9%)
UNDECIDED	7(6%)	8(17%)
NO ANSWER	3(3%)	2(4%)
5. Legislation should be introduced in Wisconsin to allow people involved in criminal cases to stipulate to the results of a polygraph exam and if the exam is administered by a competent polygraph examiner.		
AGREE	88(78%)	25(53%)
DISAGREE	10(9%)	8(17%)
UNDECIDED	12(11%)	8(17%)
NO ANSWER	3(2%)	6(13%)

* * * * * *

TRUETEST SCORES OF PRISON INMATES

By

John B. Miner and Michael H. Capps

TrueTest was developed and validated using the polygraph as an external index of honesty or integrity. The present study was undertaken with the objective of extending evidence of the test's validity using conviction and imprisonment for a crime as a criterion. It was anticipated that prisoners as a group would score below the population as a whole on TrueTest, and that their scores would be sufficiently low to bar employment under most circumstances.

Procedure

TrueTest was administered to 117 prisoners in five prisons in the state of Georgia. The prisoners were volunteers, had at least a seventh grade reading level, and were selected insofar as possible to maximize the number of property offenders. The number of individuals from each prison facility, the number in each race and sex grouping, and those sentenced for crimes involving various types of criminal behavior are indicated in Tables 1, 2, and 3.

The TrueTest raw scores for the four race and sex groups were converted to standard scores, with a mean of 50 and a standard deviation of 10 in the normative sample (N=35, 235), using the standard conversion procedures. A score of 56 or above on this measure is considered evidence of high honesty or integrity.

Table 1

Type of Prison

Prison	Number Tested
Minimum Security	18
Moderate Security	10
Maximum Security	46
Women's Correctional Facility	24
Youthful Offender's Correctional Facility	19
	117

Dr. Miner is a psychologist specializing in psychometric tests. Mr. Capps is Chairman of the Board of the American Polygraph Association.

Table 2

Race and Sex of Subjects

Subjects	Number
Male	93
Female	24
Black	57
White	66
Black Male	40
White Male	53
Black Female	11
White Female	13

* * * * * *

Table 3

Criminal Behavior*

Property Offenses (Theft)	107
Drugs/Alcohol	88
Violence and/or Sexual Offenses	16

* Some of the 117 offenders were in two or all three of these categories.

* * * * * *

Results

The mean score for all 117 prisoners was 22.64 which is at the 1.5 percentile on the normative distribution. Only two individuals scored at the cutting score of 56 or above, and thus would have been recommended for hire; 115 failed the test--98.3 percent. Table 4 contains data on the TrueTest scores obtained in the four race-sex groupings and in the total sample. It is evidence that low scores predominate in all four groups, even though the scoring systems applied differ substantially. The deviation of the scores obtained among the prisoners from what would be expected in a cross-section of test takers applying for jobs is highly significant statistically.

Table 5 contains the mean scores for the various groups described in Table 4. Overall the TrueTest scores do not differ with type of prison (F=.89, NS). However, the lowest mean score is for the males in the maximum

security prison and the highest for the women's correctional facility; both of these results make intuitive sense. The analysis by race-sex grouping yields a highly significant result ($F=3.97$, $P < .01$). The two groups that differ at $P < .05$ are the black males and the white females. However, this is clearly because the two female samples are so small. What is distinctive in this analysis is the much lower scores of the white males overall. Given that the means and standard deviations of the four groups have been set equal in calculating the standard scores, this would not be anticipated, unless the white male sample were somehow more dishonest than the other groups.

Table 4

TrueTest Score Distributions (Total N=117)

	TrueTest Score Ranges					
	0-9	10-19	20-29	30-39	40-49	50 and above
Black females	2	1	3	1	3	1
Black males	3	7	18	6	4	2
White females	1	5	4	0	1	2
White males	19	7	27	7	2	1
Total sample frequencies	25	20	42	14	10	6
Expected frequencies based on normative sample	.2	.8	2.8	12.8	31.7	68.7

$x^2 = 500.07$, $P < .01$ (df=1)

To check on this possibility the white males were compared with all others in terms of the frequency with which they were involved in the three types of criminal behavior. Alcohol and/or drug problems are present in 77 percent of the white males and only 73 percent of the other prisoners, but the difference is not significant ($x^2 = .27$, df=1). Property offenses are present in 98 percent of the white males and 86 percent of the others. In this instances the white males are significantly more likely to be involved in that criminal behavior ($x^2 = 5.40$, $P < .05$). Offenses involving violence and/or sexual behavior (and much more frequently the former) are present in 23 percent of the white males and 6 percent of the other prisoners. This difference, too, is statistically significant ($x^2 = 6.74$, $P < .01$). On the evidence, then, the white males do appear to be more heavily involved in criminal behaviors, other than those involving alcohol and drugs. Thus the lower TrueTest scores in the white male group are entirely consistent. Why this particular sample of prisoners turned out to be so different remains something of a mystery, however.

The mean score data broken down by type of criminal behavior given in Table 5 provide information on what TrueTest measures. All three mean scores are very low relative to the normative sample mean of 50. Because the prisoners were originally selected to emphasize property offenses there are very few cases where some offense of this kind is not present. Yet in

the cases where such an offense could not be established with certainty the mean score is 36.20, an elevation of almost 15 points. Similarly the great majority of the prisoners have alcohol and/or drug problems (primarily drugs). However, among those who do not give evidence of such problems the mean score is 31.31--more than 11 points above the mean score for those with such problems given in Table 5. Finally among those prisoners involved in offenses of a violent or sexual nature the mean score is extremely low--well below the first percentile point. This contrasts with a mean of 24.85 for prisoners who do not yield evidence of this type of crime--a 16 point elevation. These analyses provide good reason to believe that TrueTest is tapping characteristics related to alcohol/drug problems, property offenses, and violence/sex offenses.

Table 5

Mean TrueTest Scores in Various Prisoner Groups

Type of Prison	Mean	Race-Sex Grouping	Mean	Criminal Behavior	Mean
Minimum Security	22.89	Black females	28.82	Alcohol and/or drug problems	19.78
Moderate Security	24.20	Black males	26.65	Property offenses (stealing in some form)	21.37
Maximum Security	20.07	White females	25.77		
Women's correctional facility	27.17	White males	17.57		
Youthful offender's correctional facility	22.11			Offenses involving violence and/or sexual behavior	8.75

Conclusions

This research extends the validation of TrueTest beyond the identification of those who do not pass a polygraph investigation to those who have been convicted after trial of a crime which warrants imprisonment. TrueTest clearly relates to a range of crimes, and does so in a convincing manner. At the same time the study, by implication, seems to say something about the validity of the polygraph. TrueTest, as it is currently scored, and a competent polygraph investigation are now found to correlate at the .69 level in a sample established entirely independent of those used to develop the TrueTest scoring procedure. Would the polygraph alone predict criminal behavior as well as TrueTest? We think so, the reason being that both instruments elicit a high incidence of confessions in guilty subjects.

* * * * * *

LAW NOTES:
CIVIL AND CRIMINAL CASES

By

Norman Ansley

Two cases are produced in their entirety in this issue. In Commonwealth v. Mendes the Supreme Court of Massachusetts reversed its long standing admissibility rules and imposed an absolute ban on polygraph results as evidence. Their ruling runs contrary to recent decisions in the military courts, Eleventh United States Circuit, and the State of Idaho, which have granted admissibility. The second case is Woodland v. City of Houston, a civil case in which the plaintiffs prevailed in their complaints against the City's use of the polygraph. The plaintiffs will have their polygraph records destroyed, and the Federal Court aided by the local leader of the ACLU will set new rules for polygraph tests of applicants. The case, however, may be appealed.

In Bennett v. City of Grand Prairie, Texas, the Fifth Circuit Court of Appeals affirmed a district court's dismissal of a suit in which plaintiffs claimed an arrest warrant was not valid because the magistrate considered the results of a polygraph test along with other evidence. Polygraph evidence, said the court, may be considered by a magistrate, noting that a magistrate may consider other evidence which may later be inadmissible.

Two polygraph cases involved a claim of ineffective counsel. In Pearson v. State, an Indiana appellate court said that while a defense counsel shouldn't have submitted into evidence a police report that contained mention of the defendant's refusal to take a polygraph examination, it did not amount to ineffective counsel because the court did not see how Pearson's defense was harmed. However, in Smith v. State, the Indiana Supreme Court considered a claim of ineffective counsel based on the facts that counsel knew a witness had passed a polygraph test and failed to seek a motion in limine, failed to object when there was discussion of the test, failed to move for a mistrial when the judge allowed the discussion, and failed to object when the prosecution mentioned it later in the trial. The court said these errors by counsel did amount to ineffectiveness, and reversed and remanded for a new trial.

In a Florida case, McFadden v. State, the defense opened the trial with a statement that the defendant said he would take a polygraph test. The prosecution immediately moved for a mistrial, which was granted. Prior to retrial the defendant moved to dismiss the case upon double jeopardy grounds. The appellate court observed that some references to polygraph tests are grounds for a mistrial, but here a curative instruction would have sufficed. That being so, the cause was remanded to the trial court with directions to discharge the defendant.

In New Jersey, a Superior Court of Appeals upheld the conviction of a man for rape with a knife. The polygraph issue was whether the polygraph

Polygraph 1990, 19(1)

examiner should have been allowed to testify, despite a signed stipulation that was in agreement with prior state case law. The defendant, on appeal, said the stipulation should have been void because he signed the stipulation without benefit of counsel. Actually, he had waived right to counsel, and the appellate court noted that the Sixth Amendment right to counsel does not attach until the defendant is charged, which had not yet happened. Conviction affirmed. Judge D'Annunzio, concurring, said he had reservations about the enforceability at trial of an uncounseled polygraph stipulation. Noting the overwhelming evidence of the defendant's guilt, he concurred. See State v. Reyes (N.J.App. 1989).

The Montana Supreme Court which said it abhors polygraph evidence, said a defendant could not appeal from a sentence influenced by presentence reports that he submitted, which contained references to his polygraph test. However, in State v. McPherson, the court restated its ruling that polygraph evidence is inadmissible.

New Jersey, in State v. Pitts, reaffirmed its objection to the use of sodium amytal by a psychiatrist to support the truthfulness of a statement by the defendant about the state of his mind. The trial court refused admissibility in both the guilt phase and the penalty phase of the trial. The Supreme Court of New Jersey agreed with both rulings.

Two cases relate to the issue of a stipulation signed by the defendant and the prosecuting attorney, but signed before the defendant had benefit of counsel. In Casada v. State in Indiana and State v. Reyes in New Jersey, appellate courts came to the same conclusion; that waiver of counsel was proper and the stipulation in effect because the Sixth Amendment right to counsel does not attach until the defendant has been arrested or indicted.

In Polygraph (1989)18(3), 125-142, we reported U.S. v. Picinnona in its entirety, but without the citation. The West citation is 885 F.2d 1529 (11th Cir. 1989).

In California, a bill that passed the legislature that would have extended California's polygraph licensing for three years was vetoed by Governor George Deukmejian. In doing so, the Governor said that in view of the federal law, he didn't think it necessary to continue the licensing. Effective 1 January 1990, a license will not be necessary in California.

Nevada has passed two bills, one limiting the use of preemployment polygraph examinations and one prohibiting polygraph examiners from asking a subject to waive liability. The limiting law makes exceptions for specific issue tests, much as the EPPA does, and exempts similar industries. Finally, a law was enacted that requires a police officer to take a polygraph test if a citizen who complains about his conduct passes a test.

Woodland v. City of Houston, _____ F.Supp. ____, USDC-Houston, Civil Action No. H-82-1076. (January 1990).

FINAL JUDGMENT AND PERMANENT INJUNCTION

1. Background.

John Woodland who applied for employment with the Houston Fire Department, Ramdeo Jagassar who applied for employment with the Houston Police Department, and Chris Goss who applied for employment with the Houston Airport Police sued the city urging that the city's pre-employment polygraph examinations were arbitrary and were unreasonably intrusive, under both the United States and Texas Constitutions. They sued for themselves and for others who were similarly situation as a class seeking damages, reinstatement, and injunctive relief.

The class was certified for the purpose of declaratory and injunctive relief under Rule 23(a) and (b)(2). The liability questions were tried to a jury, and the damages questions were tried later before the court.

2. Jury Verdict.

The jury found that the questions asked by Houston were unreasonably intrusive under separate definitions for the federal and state constitutional standards.

3. Individual Damages.

A. John Woodland. Had John Woodland been employed rather than rejected by Houston, he would have received from the city $__,___.00, as wages and other benefits (after having deducted what he had earned) from the time of his rejection until this judgment.

B. Ramdeo Jagassar. Had Ramdeo Jagassar been employed rather than rejected by Houston, he would have received from this city $__,___.00, as wages and other benefits (after having deducted what he had earned) from the time of his rejection until this judgment.

C. Chris Goss. Had Chris Goss been employed rather than rejected by Houston, he would have received from the city $__,___.00, as wages and other benefits (after having deducted what he had earned) from the time of his rejection until this judgment.

6. Class Findings.

The individual plaintiffs are representative of the class of applicants to the three city departments using the polygraph in pre-employment screening for jobs in security-sensitive positions, like fire and police; therefore, under the United States Constitution and independently under the Texas Constitution, the questions asked and the process used as part of Houston's pre-employment polygraph procedures were unreasonably intrusive as applied to the class members.

The class is composed of those people who applied for employment with the Fire, Police, or Airport Police Departments of the City of Houston since April 1989 and who were rejected because of some information or conclusion derived from the polygraph process, including the pretest interview and the examiner's opinion of the applicant.

7. Class Conclusions.

The questions asked and the process used as part of Houston's pre-employment polygraph procedures violate the constitutional limits on permissible governmental action established by the United States Constitution to the injury of the class. Independently, those pre-employment polygraph procedures violate the limits on permissible governmental action established by the Texas Constitution to the injury of the class. This is independent ground of recovery for the plaintiffs and the class under the separate and distinct content of the constitution and common law of Texas, which is addition to, more fundamental than, and greater than that affronted by the National Constitution.

8. Declaratory Judgment.

Under 28 U.S.C. secs. 2201 and 2202, as a matter of the federal and state constitutions, the pre-employment polygraph procedures used by the City of Houston are declared to be an unreasonable and illegal intrusion upon applicants for employment in the Fire, Police, and Airport Police Departments.

9. Injunction.

A. Score. This injunction applies directly, under penalty of contempt, to the City of Houston, its officers, agents, employees, and others acting in concert with it.

B. Duration. This injunction is permanent.

C. Indirect Violation. The City of Houston is enjoined, directly or indirectly, from asking questions during the pre-employment process that do not have an articulable rational basis for discovering whether an applicant possesses actual qualifications reasonably related to the particular job; this prohibition applies to the specific methods used with the class members and any variation of it that suffers from the same irrational biases or unnecessarily intrusive information gathering.

D. Prohibited Actions. During the pre-employment screening of applicants for positions with the City of Houston's Fire, Police, and Airport Police Departments, use of a polygraph test of the applicant should not include questions that:

(1) Intrude into an applicant's privacy or private concerns and affairs beyond reasonably related to actual requirements for the job which the applicant seeks; and,

(2) Have not been narrowly, specifically, and directly tailored to the applicant's potential for capable performance of the job; and,

(3) The city has no other reasonable alternative method to acquire the information to which it is legally entitled; and

(4) Have not been prohibited specifically by this injunction.

(5) During the pre-employment polygraph process, the City of Houston shall not ask questions about:

(a) The applicant's religion, religious practices, or lack of them;

(b) The applicant's consensual sexual activity, except to the extent that the act was unlawful in the jurisdiction where it took place;

(c) Extramarital sex, except that which occurs within the 90 days preceding the screening process and if it is likely to interfere with completion of the academy;

(d) Crimes committed as a child, except to the extent they involved a crime which was a felony or a crime of physical injury or sexual assault in the jurisdiction within which it occurred, or the applicant was tried and convicted for it as an adult;

(e) The use of marijuana, except to the extent that it was used unlawfully by the applicant in the jurisdiction of the location where it was used within the six months preceding the screening process; illegal use of marijuana cannot be used to disqualify an applicant unless similar level offenses are similarly used as disqualifications, like traffic, drinking, or hunting violations;

(f) Adult criminal behavior, except to the extent that the applicant committed a felony, caused serious injury, perpetrated a sexual assault, committed theft or a Class A misdemeanor;

(g) Theft unless it involved at least $25 and occurred within the twelve months before the screening process or there have been four thefts within the three years preceding the screening process;

(h) Membership in organizations, except to the extent that the applicant is currently or, within the previous five years, has been an active member of an organization which advocates violent or unlawful acts;

(i) Drug use, unless the questions are about the applicant's illegal use of uppers, downers, steroids, or cocaine in the last twelve months or hallucinogens within five years or heroin within twelve months and more than once use in five years;

(j) Criminal behavior by family members except to the extent that it involves adult criminal behavior by a member of the

applicant's family, relative, or friends with whom the applicant lives or with whom the applicant has such a relationship that would adversely affect the applicant's ability to uniformly enforce the law or with whom the applicant has engaged in joint criminal behavior as an adult, to the extent such an inquiry is allowed;

(k) Confidential medical information, unless done as part of an examination by licensed medical personnel; and

(l) Matters into which the City cannot otherwise legally inquire.

D. Required Acts.

(1) Recordation. To insure evidence of non-intrusiveness of future polygraph procedures, the City of Houston shall also require that either audio or audio-video recordings be made of all polygraph procedures and preserved for six months after the final written rejection or acceptance. Applicants who are rejected who have been subjected to the polygraph process shall be given a detailed explanation of the reasons for the rejection, an opportunity to explain their performance, and time after the review to appeal the rejection.

(1) (a) ... months, and you have the right to review it. If you are rejected, you have a right to a written explanation and an appeal.

(b) Past References. The City of Houston shall advise anyone that it has already provided with information about the class's polygraph tests or results in writing that the polygraph tests were improperly administered and violated the law and shall request in writing that all references about Houston's pre-employment polygraph procedures be removed from files on the class members.

(c) Past Applicants. The City of Houston shall published this notice (no smaller than 3 inches by two columns) to class members on Monday, Wednesday, and Friday, March 5, 7, and 9, 1990, in the Houston Post and the Houston Chronicle and post it at all locations in city offices and facilities where employment notices are posted:

NOTICE TO APPLICANTS TO THE CITY OF HOUSTON'S
FIRE, POLICE, AND AIRPORT POLICE DEPARTMENTS

There is a lawsuit in this federal court on behalf of all applicants to the City of Houston's Fire, Police, and Airport Police Departments who were denied employment at any time after March 1, 1980, because of the City's use of pre-employment polygraph procedures. There is a judgement in favor of the class that orders:

1. The City of Houston to destroy all records of the polygraph examinations and interviews that were the source of a class member's application being denied.

2. An applicant who was denied employment as a result of the City of Houston's pre-employment polygraph procedures since March 1, 1980, may reapply for employment with the City of Houston before October 1, 1990.

3. If you reapply, the earlier polygraph results will not be used at all, directly or indirectly, in reviewing your new application, and the fact that you are a member of the class in the lawsuit will not be used against you.

For further information please contact:

Employment Counselor
City of Houston
901 Bagby Street
Houston, Texas 77002
(713) 247-2000

or

James C. Harrington
Texas Civil Liberties
Union Foundation, Inc.
1611 East First Street
Austin, Texas 78702-445
Attorney for the Class.

By order of:

Lynn N. Hughes
United States District Judge
Southern District of Texas

Civil Action No. 82-1076, Woodland v. City of Houston

(3) File Cleaning. The City of Houston shall destroy, without copying or otherwise preserving the contents, all polygraph examination documents and delete from the records in its control or possession all references to polygraph tests administered to Woodland, Jagassar, and Goss by the City of Houston, except the files maintained by the Legal Department about this case, which files are to be kept confidential and within the Legal Department's exclusive control. The City of Houston shall destroy all polygraph examination documents and delete from the records in their control or possession all references to polygraph tests administered to class members by the city.

(4) Log of Class Members. The City of Houston shall make, maintain in its Legal Department, and provide to the plaintiffs a confidential log of all those who took a polygraph examination, but not kept in the member's personnel file.

(5) Re-Applications. If a class member, before October 1, 1990, applies to the City of Houston for employment and whose earlier application had been rejected because of the pre-employment polygraph procedures, the City of Houston will permit that person to reapply, waiving current age and physical requirements and wholly disregarding and not considering at all the earlier pre-employment polygraph procedures with the applicant, except to the extent that the applicant made an admission of objective fact about matters which would otherwise disqualify the applicant for employment; nor shall the City take into adverse account the fact that an applicant is a

class member in this action. Woodland, Jagassar, and Goss may reapply before April 1, 1990, under the same conditions.

9. Attorney's Fees and Costs.

The plaintiffs have also sought attorneys' fees and costs. The reasonable attorney's fees for the necessary services in the prosecution of this action for the plaintiffs and the costs reasonably necessary properly to pursue this litigation, in addition to those taxed as costs of court, are $102,326.00.

10. Award.

It is adjudged that from the city of Houston these people recover severally these amounts:

A. John Woodland:
   (1) Damages of $ and
   (2) Pre-judgment interest of $.

B. Ramdeo Jagassar
   (1) Damages of $ and
   (2) Pre-judgment interest of $.

C. Chris Goss
   (1) Damages of $ and
   (2) Pre-judgment interest of $.

D. Woodland, Jagassar, and Goss, jointly and severally:
   (1) Attorney's fees of $94,050;
   (2) Costs of $8,276.00;
   (3) Court costs; and
   (4) Post-judgment interest at ___% per annum.

Signed on January ____, 1990 at Houston, Texas.

_____
Lynn N. Hughes
United States District Judge

(Case submitted by APA Member Shirley H. Sturm.)

* * * * * *

Commonwealth v. Mendes, 547 N.E.2d 35 (Mass. 1989)

Following two indictments against Benjamin Mendes and six against Kenneth M. Rosenberg, each defendant moved for a court-ordered polygraph examination. In addition, Mendes moved for admission in evidence of a previously conducted court-ordered polygraph examination. The motions were heard by the trial judge who reported questions of law to the Appeals Court.

The Supreme Judicial Court granted a request for direct review. Thus the case against the two defendants had not come to trial when the issue was raised to the Commonwealth's highest court.

OPINION

O'CONNOR, J.[1] In this case, we reexamine the admissibility of polygraphic evidence in criminal trials in this Commonwealth. Persuaded both by the failure of the basic theory of polygraphy to have gained general acceptance among physiological and psychological authorities, and by the nearly unanimous rejection of such evidence by courts throughout the United States (at least in the absence of stipulation), we conclude that polygraphic evidence is inadmissible in criminal trials in this Commonwealth either as substantive proof of guilt or innocence or as corroboration or impeachment of testimony.

The defendant Mendes is charged with rape of a child, indecent assault and battery on a child under sixteen, and rape of a child by force. The defendant Rosenberg is charged with rape of a child (two indictments), incest, and indecent assault and battery on a child under fourteen (three indictments). The defendants moved for court-ordered polygraphic examinations. Also, the defendant Mendes filed a motion seeking admission in evidence of the results of his previously court-ordered polygraph test. The motions were heard together by a judge of the Superior Court at an evidentiary hearing that consumed four days.

The judge issued a thorough memorandum in which he discussed the evidence at length, including numerous written studies, and set forth his findings and conclusions. He concluded as follows: "[T]he polygraph is sufficiently reliable to warrant its continued limited admissibility provided that any court-ordered examination is subject to testing by the traditional tools of the adversary system; namely discovery, cross-examination, and rebuttal. Discovery of a defendant's previous polygraph history, his knowledge of countermeasures, and his criminal, social and psychiatric history might provide evidence for meaningful cross examination and a basis for expert rebuttal and surrebuttal testimony. However, in order to give fair and appropriate weight to the results of an individual court-ordered test, the cross-examination of the defendant and the polygraph operator on these issues could be extensive. An expert challenging the test results in rebuttal and another supporting the test results in surrebuttal may cover the same ground and, in fact, parallel the four day hearing conducted by this court. In essence, this Court is concluding that the polygraph is valid, but that the necessary evaluative time and resources may be so substantial, that an appellate authority may, on policy grounds, decide that it is not worth the price." (Emphasis in original.)[2] The judge concluded as follows: "With full discovery of the defendant's polygraph history and a broadened line of inquiry at trial concerning this history, the Court finds that the polygraph, although it has not gained general acceptance in the scientific community, is sufficiently reliable for its continued use under the procedures authorized by Commonwealth v. Vitello[375 Mass. 426 (1978)] ... Broadening the scope of the in-court inquiry concerning the weight to be given the court-ordered test will place significant burdens on the system which should be addressed by an appellate authority as a matter of policy."[3]

The judge allowed each defendant's motion for a court-ordered polygraph examination, subject to conditions, among which are the requirements that the defendant file with the clerk "the results of any prior polygraphy test or tests he has taken along with an affidavit detailing his previous experience with the polygraph," and that those results and affidavit "be made available to the court-ordered polygrapher."

At the Commonwealth's request, the judge reported the following questions of law to the Appeals Court:

"1. Should the polygraph continue to be admissible for the limited purpose of corroborating or impeaching a defendant's trial testimony in view of the validity research and expert opinion since the decision in Commonwealth v. A. Juvenile, 365 Mass. 421 (1974)?

"2. If the answer to one above is yes: 'In view of the research and expert opinion, does the taking of a private polygraph examination invalidate a later court-ordered test?'

"3. If the answer to two above is No: 'Can the trial judge order disclosure of the results of a privately retained preliminary test as well as other information concerning previous polygraph knowledge and experience possessed by the defendants?'

"4. If the answer to three above is yes: 'Is this information admissible at trial on the issue of the weight to be given to the court sanctioned test?'

"5. If the answer to one above is yes: 'Do special circumstances such as the nature of the offense charged, the criminal and psychiatric history of the defendant, or the use of alcohol or drugs at the time of the events invalidate the test?;'"

We granted the Commonwealth's application for direct appellate review. For the reasons stated below, we answer the first question "no; evidence that a defendant has taken a polygraphic examination, or testimony as to the results of such an examination is inadmissible at a criminal trial." Thus, we need not answer the remaining questions. We vacate the order allowing the defendants' motions for court-ordered polygraph tests.

In Commonwealth v. Fatalo, 346 Mass. 266 (1963), we first addressed the question whether the results of a polygraph test should be admissible in evidence at a criminal trial. In answering that question in the negative, we adopted the rule articulated in the landmark case of Frye v. United States, 293 F.1013, 1014 (D.C.Cir. 1923), that, "while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs." In rejecting an early predecessor of polygraphy, the Frye court stated: "We think the systolic blood pressure deception test has not yet gained such standing and scientific recognition among physiological and psychological authorities as would justify the courts in admitting expert testimony deduced from the discovery,

development, and experiments thus far made." Id. In Fatalo, supra at 270, we, too, concluded that the polygraph test had not yet been accorded general scientific recognition, and that, therefore, the trial judge had properly excluded such evidence.

"The requirement, as in the Frye and Fatalo cases of general acceptance in the scientific community assures that those most qualified to assess the general validity of a scientific method will have the determinative voice. See United States v. Addison, 498 F.2d 741, 743-744 (D.C.Cir. 1974)." Commonwealth v. Lykus, 367 Mass. 191, 202 (1975). Those most qualified are not judges, but rather are scientists with special knowledge who are most familiar with the method or theory in question. Id. at 203. "Judicial acceptance of a scientific theory or instrument can occur only when it follows a general acceptance by the community of scientists involved." Id. at 196, quoting Commonwealth v. Fatalo, supra at 269. In determining whether general acceptance by the appropriate scientific community has occurred, "we may properly consider not only the testimony of experts in the record before us but also articles written by experts and the conclusions of other courts." Commonwealth v. Kater, 388 Mass. 519, 527 (1983). See Commonwealth v. Whynaught, 377 Mass. 14, 17-18 (1979).

We have applied the Frye rule not only in the polygraphy context, see Fatalo, supra, but in numerous other contexts as well. The rule is imbedded in our law. See, e.g., Commonwealth v. Gomes, 403 Mass. 258, 265-266, 270 (1988) (electrophoresis in blood-grouping analysis); Commonwealth v. Beausoleil, 397 Mass. 206, 215 (1986) (human leukocyte antigen [HLA] testing in paternity cases); Commonwealth v. Kater, supra at 531-534 (hypnotically aided testimony); Commonwealth v. Lykus, supra at 205 (spectrographic voice analysis). Apparently, the Chief Justice would have us abandon that long-standing rule. We are not persuaded to do so.

More than a decade after our decision in Fatalo, which was based on our acceptance of the Frye rule, we deviated from the Frye rule. In Commonwealth v. A. Juvenile, 365 Mass. 421, 429 (1974), we stated that, "despite very significant progress in recent years," polygraphy was still insufficiently reliable to satisfy the Fatalo requirements for general admissibility. Nevertheless, the court, with three Justices dissenting, concluded "that polygraph testing has advanced to the point where it could prove to be of significant value to the criminal trial process if its admissibility initially is limited to carefully defined circumstances designed to protect the proper and effective administration of criminal justice." Id. at 425. We subsequently observed in Commonwealth v. Vitello, 376 Mass. 426, 442 (1978), that "we recognized in A Juvenile that failure to achieve the standard of general acceptance need not freeze the evidentiary development of the polygraph in view of its unique potential as a tool of justice." So, in A Juvenile, supra at 432, instead of relying on the appropriate community of scientists to validate polygraph testing, we made our own evaluation of the polygraph's potential and announced a new rule as "a cautious first step toward the acceptance of polygraph testing." The new rule, to be applied only where the defendant moves the court for permission to submit to a polygraph examination, was stated as follows: "[I]f a defendant agrees in advance to the admission of the results of a polygraph test regardless of their outcome, the trial judge, after a close and searching inquiry into the

qualifications of the examiner, the fitness of the defendant for tests, may, in the proper exercise of his discretion, admit the results, not as binding or conclusive evidence, but to be considered with all other evidence as to innocence or guilt. As a prerequisite the judge would first make sure that the defendant's constitutional rights are fully protected." A Juvenile, supra at 426. See Id. at 430-431.

We have never determined that the appropriate scientific community, which includes physiologists and psychologists, has generally accepted the validity of polygraphy as a scientific means of detecting deception. In Commonwealth v. Vitello, supra at 431, we simply "accept[ed] as current and valid the finding of the court in A Juvenile that the 'general acceptance' standard of Fatalo ha[d] not yet been achieved," and announced, id . at 453, that polygraph evidence "cannot be admitted as independent evidence of guilt or innocence," but that the polygraph examiner may "testify on the limited issue of the defendant's credibility as a witness," Id. at 455. Thus, the evidence was stated to be admissible only if the defendant testifies and then only for corroboration or impeachment.

The extensive record in this case indicates that the theory and practice of polygraphy have not changed appreciably since our descriptions in A Juvenile, supra at 426-427, and Vitello, supra at 431-439. In brief, the polygrapher investigating a criminal incident usually employes the "control question technique." Under this technique, the examiner asks the subject "relevant" questions pertaining directly to the incident being investigated, and also "control" questions which deal with acts similar to the incident in question but are more general in nature. The control questions are designed to produce a strong physical reaction on the polygraph instrument, which records respiratory activity, sweat gland activity, and changes in blood pressure. The examiner asks several sequences of control and relevant questions, and then scores the result using one of several scoring methods. As a general matter, if control questions elicit stronger reactions than the relevant questions, the subject is considered to have answered the relevant question truthfully. If the relevant questions produce stronger responses, then the subject is considered to have been deceptive. See Raskin, The Polygraph in 1986: Scientific, Professional and Legal Issues Surrounding Application and Acceptance of Polygraph Evidence, 1986 Utah Law Review 29.

Now, fifteen years after our decision in A Juvenile, there remains no consensus among experts as to the accuracy of polygraph testing to detect deceit. One recent article cites figures of 97 percent accuracy for guilty subjects and 92 per cent accuracy for innocent subjects, for an over-all rate of 95 per cent based on several laboratory studies "performed under carefully controlled conditions by highly skilled examiners with extensive psychological training and expertise." Raskin, supra at 42-43. This would give the polygraph test a probative value comparable to that which we found sufficient in admitting evidence from the HLA test on the issue of paternity in Commonwealth v. Beausoleil, 397 Mass. 206, 219 (1986). Another article concludes that scientifically credible studies show an average 84 per cent accuracy rate for guilty subjects and 53 per cent on innocent subjects. See Lykken, The Validity of Tests: Caveat Emptor, 27 Jurimetrics Journal 263, 264 (Spring, 1987). Such a record gives the polygraph examiner only a slightly better chance of correctly identifying an innocent subject by using

his machine than he would have by flipping a coin. See Lykken, The Lie Detector and the Law, 8 Criminal Defense 19, 26 (1981). A third recent study shows an accuracy rate of 74 per cent for guilty subjects and 72 per cent for innocent subjects. Kleinmuntz & Szucko, A Field study of the Fallibility of Polygraphic Lie detection, 308 Nature 449 (1984). As this diversity of opinion shows, polygraphy has not met the "general acceptance" standard of Commonwealth v. Fatalo, 346 Mass. 266, 269 (1963).

Although experts disagree over the magnitude of the over-all error rate to be expected from a polygraph test, they generally agree that the error rate for innocent subjects who take the test is higher than that for guilty subjects. The experts in this case agreed that the rate of innocents misidentified as guilty is roughly twice the rate of guilty subjects who pass the test. Even the most favorable of the above estimates of the test's accuracy suggests that eight per cent, or approximately one of every thirteen innocent defendants, will wrongly be identified as deceptive by a polygraph examiner.

As we have said earlier in this opinion, in determining whether a scientific method or theory has gained general acceptance among the relevant experts, we may properly consider the conclusions of other courts. Commonwealth v. Kater, 388 Mass. 519, 527 (1983). Commonwealth v. Whynaught, 377 Mass. 14, 18 (1979). Commonwealth v. Lykus, 367 Mass. 191, 199 (1975). There is suggestion in United States v. Piccinonna, 885 F.2d 166 (11th Cir. 1989), that the Court of Appeals for the Eleventh Circuit, by a divided court, has concluded that polygraphy has gained such acceptance. However, we are aware of no other court that has so concluded. Furthermore, in considering whether, in the absence of consensus among the appropriate scientific community, we should nevertheless admit polygraphic evidence in criminal trials, we are again assisted by knowing the course taken by other State and Federal courts. We discuss below the law elsewhere.

Numerous courts in other jurisdictions have either held or announced in dicta that polygraphic evidence is inadmissible even when the parties have entered into a pretest stipulation that the results will be admissible. Those courts generally have reasoned, as we did in Commonwealth v. Vitello, 376 Mass. 426, 448 (1978), that a prior stipulation cannot "'imbue' the polygraph test with reliability and probative value where such qualities are otherwise lacking."[4] The courts of North Carolina, Oklahoma, and Wisconsin had previously admitted such evidence and then, on reexamination, decided not to do so. See State v. Grier, 307 N.C. 628 (1983); Fulton v. State, 541 P.2d 871 (Okla. Crim. App. 1975); State v. Dean, 103 Wis.2d 228 (1981). Still other jurisdictions in large number have dealt with cases in which, like here, there had been no stipulation and have held that polygraphic test results are inadmissible.[5] Lastly, courts in other jurisdictions, dealing with cases in which the parties have entered into a pretest stipulation as to the admissibility of results, have sanctioned the admission of the evidence but have made clear that, in the absence of stipulation, the evidence would not have been admissible.[6]

The cases cited in notes 4, 5, and 6, supra, most of which have been decided subsequent to our 1974 decision in Commonwealth v. A Juvenile, supra, demonstrate a nearly unanimous judicial consensus not only that polygraphy

has not gained general acceptance among the community of scientists best qualified to judge its validity, but also that polygraphic evidence, at lest in the absence of a pretest stipulation, ought not be admitted as evidence in a criminal trial for any purpose.

In the absence of a stipulation as to admissibility, our research discloses that, with few exceptions, polygraphic evidence is inadmissible throughout the country, even in the discretion of the trial judge, either for substantive purposes or to corroborate or impeach a witness. United States v. Piccinonna, supra, which holds that such evidence is admissible in the discretion of the trial judge, for impeachment or corroborative purposes, is an exception to that general rule. Only in New Mexico is polygraphic evidence admissible as a matter of right. See Tafoya v. Baca, 103 N.M. 56 (1985); State v. Dorsey, 88 N.M. 184 (1975). We note that there is no Frye-type (Frye v. United States, 298 F. 1013, 1014 [D.C. Cir. 1923]) analysis in either New Mexico opinion.

In developing our approach to the use of polygraphic evidence in A Juvenile and Vitello, we were keenly aware of the shortcomings of the polygraph method of ascertaining deception, and its use in a trial situation. We noted the subjective nature of the polygraph method, and the crucial role played by the "competence, experience, and education of the test examiner." A Juvenile, supra at 427. Vitello, supra at 438-439. We reiterated our concerns about the "uncertain reliability of polygraph evidence," Vitello, supra at 442, and "the danger that on the introduction of such evidence a trial court descent into a battle of experts on the probative value of the polygraph test rather than a determination of the guilt or innocence of a defendant." Id. at 442, quoting Fatalo, supra at 269. We noted the potential for confusing and prejudicing the jury and the related possibility that the use of polygraph evidence "may usurp the jury's historic role of determining the credibility of witnesses, and finding facts." Vitello, supra at 445. See A Juvenile, supra at 447 (Quirico, J., dissenting). We also addressed the burden placed on trial judges by the need to determine in each case whether the expert is fully qualified and the test was properly conducted. Vitello, supra at 446-447. Nonetheless, we took a "cautious first step" in the hope, if not expectation, that the development of polygraphic testing would soon reach the stage where it would be generally accepted by the appropriate scientific community. A Juvenile, supra at 432. We considered "the time [to be] ripe for cautious judicial examination and evaluation," but we recognized that "[t]he experienced gained may well lead to a total rejection of the concept." Id. at 434.

Fifteen years has been more than enough time for examination and evaluation. As is apparent from the judge's memorandum, the evidentiary shortcomings of polygraphy have not been alleviated in the slightest way. In addition, it is clear from the extensive record in this case and the available literature that our hope that polygraphy would mature to the point of general scientific acceptance has not materialized. Further hope or expectation in that regard is no longer warranted. Thus, whatever justification there may have been for our single departure from the Frye rule in A Juvenile and Vitello, that justification no longer exists. Accordingly, supported by the overwhelming authority throughout the country, we announce that polygraphic evidence, with or without pretest stipulation, is

inadmissible in criminal trials in this Commonwealth either for substantive purposes or for corroboration or impeachment of testimony. The rule we adopt today governs this case and all over cases in which the trial begins after this decision.

The order allowed the defendants' motions for court-ordered polygraph tests is vacated.

So ordered.

Notes:

[1] A third defendant, Michael Otero, filed a motion to dismiss his appeal on suggestion of mootness which was allowed by this court on the recommendation of a single justice. He is not a party to this appeal.

[2] The availability of rebuttal and surrebuttal evidence in connection with polygraphic evidence has not previously been referred to in our cases.

[3] The judge's expression, "broadened line of inquiry," appears to be a reference to rebuttal and surrebuttal testimony.

[4] See Pulakis v. State, 476 P.2d 474 (Alaska 1970); People v. Anderson, 637 P.2d 354 (Colo. 1981); People v. Baynes, 88 Ill.2d 225 (1981); Conley v. Commonwealth, 382 S.W. 2d 865 (Ky. 1964); Akonom v. State, 40 Md.App. 676 (1978); State v. Biddle, 599 S.W.2d 182 (Mo. 1980); State v. Grier, 307 N.C. 628 (1983); Fulton v. State, 541 P.2d 871 (Okla. Crim. App. 1975); State v. Lyon, 304 Or. 221 (1987); Commonwealth v. Brockington, 500 Pa. 216 (1983); State v. Frazier, 162 W.Va. 602 (1979); State v. Dean, 103 Wis.2d 228 (1981).

[5] See United States v. Soundingsides, 820 F.2d 1232 (10th Cir. 1987); United States v. Brevard, 739 F.2d 180 (4th Cir. 1984); United States v. Clark, 598 F.2d 994 (5th Cir. 1979), cert. denied, 449 U.S. 1128 (1981); United States v. Fife, 573 F.2d 369 (6th Cir. 1976), cert. denied sub nom. Klein v. United States, 430 U.S. 933 (1977); United States v. Alexander, 526 F.2d 161 (8th Cir. 1975); United States v. Skeens, 494 F.2d 1050 (D.C.Cir. 1974); State v. Miller, 202 Conn. 463 (1987); Smith v. United States, 389 A.2d 1356 (D.C.), cert. denied, 439 U.S. 1048 1978); State v. Antone, 615 P.2d 101 (Haw. 1980); State v. Catanese, 368 So.2d 975 (La. 1979); Guesfeird v. State, 300 Md. 653 (1984); People v. Barbara, 400 Mich. 352 (1977); State v. Perry, 142 N.W.2d 573 (Minn. 1966); Harrison v. State, 307 So.2d 557 (Miss. 1975); State v. Pusch, 77 N.D. 860 (1950); State v. LaForest, 106 N.H. 159 (1965); People v. Shedrick, 66 N.Y.1d 1015 (1985); State v. Dery, 545 A.2d 1014 (R.I. 1988); State v. Pressley, 290 S.C. 251 (1986); State v. Muetze, 368 N.W.2d 575 (S.D. 1985); State v. Elliott, 703 S.W.2d 171 (Tenn.Crim.App. 1985); Banda v. State, 727 S.W.2d 679 (Tex.Ct.App. 1987); Jones v. Commonwealth, 214 Va. 723 (1974).

[6] Wynn v. State, 423 So.2d 294 (Ala. 1982); State v. Valdez, 91 Ariz. 274 (1962); State v. Bullock, 263 Ark. 394 (1977); People v. Trujillo, 67 Cal.App.3d 547 (1977); Davis v. State, 520 So.2d 572 (Fla. 1988); State v. Marti, 290 N.W.2d 570 (Iowa 1980); State v. Roach, 223 Kan. 732 (1978);

State v. McDavitt, 62 N.J. 36 (1972); Corbett v. State, 94 Nev. 643 (1978); State v. Souel, 53 Ohio St.2d 123 (1978); State v. Renfro, 96 Wash.2d 902, cert. denied, 459 U.S. 842 (1982).

LIACOS, C.J. (dissenting). The court today rushes headlong into the wholesale rejection of a carefully crafted set of rules in this Commonwealth governing the admissibility of polygraph evidence. The court errs by giving not only blind, but also superficial, adherence to the rule enunciated in Frye v. United States, 293 F. 1013 (D.C.Cir. 1923). Even assuming the validity of that rule, the court misapplies it in the case at hand. I would adhere to the extensive analysis of polygraph evidence set forth by the court in Commonwealth v. Vitello, 376 Mass. 426 (1978). Therefore, I dissent.

The Frye rule has been oft-quoted and rarely justified in Massachusetts opinions. It is seductively simple to require "general acceptance" before admitting novel expert scientific testimony. One must question a rule which bars from the fact finder otherwise reliable probative evidence simple because the "relevant scientific community" has not yet adequately digested and approved of its foundation. See Giannelli, The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later, 80 Columbia Law Review 1197, 1223 & n.202 (1980). In my view, the courts, armed with the traditional tools of basic evidentiary principles, are well-equipped to handle admissibility questions without totally abdicating their judgment to scientific experts.

The Frye test has been roundly criticized by several commentators,[1] and rejected by several courts.[2] In addition to its inherently conservative nature, the difficulty in applying the Frye test has led to a malleable standard which glosses over crucial considerations. Who exactly comprises the "relevant scientific community" to which the court defers? As this very case demonstrates, the answer to this question may determine the outcome of the inquiry. What must be shown in order for an appellate court to find general acceptance? When must a court apply the Frye test? The opinion of the court leaves these questions unanswered. "When a witness testifies that he saw the defendant throw a rock at the victim, the inferences to be drawn from this testimony involves a number of principles of physics, but few courts would apply the Frye test." 22 C.A. Wright & K.W. Graham, Federal Practice and Procedure, sec. 5168, at 87 n.10 (1978).

In Commonwealth v. Vitello, 376 Mass. 426 (1978), while declining to overrule the Frye standard, this court identified a number of evidentiary and policy considerations which animated our decision to allow polygraph evidence to be admitted for limited purposes in limited circumstances. We took into account the probative value of the evidence, the potential for confusion or prejudice to the jury, intrusion into the jury function, and the consumption of time and use of trial resources. The Vitello analysis more honestly and effectively addresses the policy considerations involved in making the admissibility determination than does the slavish application of the Frye test.

Even if we assume that the Frye test has some intrinsic value, the court misapplies the test today in order to reach its desire result. First, the court improperly has excluded a knowledgeable group of experts from its "relevant scientific community." The court should have taken into account the views of polygraph examiners in determining whether the polygraph has been generally accepted. See United States v. Piccinonna, 885 F.2d 166, 170-171 (11th Cir. 1989); United States v. Zeiger, 350 F.Supp. 685, 689 (D.D.C.), rev'd per curiam, 475 F.2d 1280 (D.C.Cir. 1972); United States v. DeBetham, 348 F.Supp. 1377, 1388 (S.D. Cal.), aff'd per curiam, 470 F.2d 1367 (9th Cir. 1972), cert. denied, 412 U.S. 907 (1973). There now exists an American Polygraph Association which has developed detailed standards for their members to follow. Sevilla, Polygraph 1984: Behind the Closed Door of Admissibility, 16 U.W.L.A.L. Review 5, 19 (1984). As Judge Fay, speaking for the Eleventh Circuit, wrote just a few months ago, "[s]ince the Frye decision, tremendous advances have been made in polygraph instrumentation and technique. Better equipment is being used by more adequately trained polygraph administrators. Further, polygraph tests are used extensively by government agencies. Field investigative agencies and law enforcement agencies use the polygraph." Piccinonna, supra at 169-170. In the present case, by avoiding mention of the widespread acceptance of the polygraph, the court artificially limits its inquiry.

In Massachusetts, "the requirement of the Frye rule of general acceptability is satisfied ... if the principle is generally accepted by those who would be expected to be familiar with its use." Commonwealth v. Lykus, 367 Mass. 191, 203 (1975), S.C., ante 135 (1989). The professional examiner, rather than the laboratory examiner, is generally given more credit by this court. 367 Mass. at 202. The "Frye standard does not require unanimity of view, only general acceptance; a degree of scientific divergence of view is inevitable." Id. at 204 n.6. This court has "give[n] greater weight to those experts who have had direct and empirical experience in the field." Id. The court should give significant weight to the judgment of experienced polygraph analysts, but it ignores this evidence completely.[3]

It is misleading for the court to claim nearly unanimous judicial support for its holding. As the court's review of the nation's jurisdictions reveals, numerous courts have allowed polygraph evidence in varying circumstances, ranging from admissibility as a matter of right to admissibility pursuant to a stipulation.[4] At least one other court has allowed polygraph evidence for the limited purpose set forth in Vitello: for purposes of impeachment or corroboration in a criminal case. See United States v. Piccinonna, 885 F.2d 166, 174 (11th Cir. 1989).

In Commonwealth v. Vitello, supra, we struck a careful balance in our decision to allow polygraph evidence for limited purposes under limited circumstances. the court "did not think it wise to bar the polygraph completely from the judicial arena." Id. at 453. I continue to adhere to that decision. With proper oversight and the appropriate use of judicial discretion by trial judges, the polygraph can serve as an effective tool in the truth-seeking process. I regret that the court has failed to recognize the wisdom of its prior decisions. I dissent.

Notes:

[1] See, e.g., Black, A Unified Theory of Scientific Evidence, 56 Fordham Law Review 595, 627-641 (1988); Note, The Use of Hypnosis in Criminal Trials, 21 Loyola L.A.L. Review, 635, 660-664 (1988). McCormick, Scientific Evidence: Defining a New Approach to Admissibility, 67 Iowa Law Review 879, 915-916 (1982); Giannelli, supra at 1204-1231; Tarlow, Admissibility of Polygraph Evidence in 1975: An Aid in Determining Credibility in a Perjury-Plagued System, 26 Hasting Law Journal 917, 923 & n.38 (1975); Boyce, Judicial Recognition of Scientific Evidence in Criminal Cases, 8 Utah Law Review. 313 (1964); Strong, Questions Affecting the Admissibility of Scientific Evidence, 1970 U. Illinois L.F. 1, 2-4; McCormick, Evidence section 203, at 491 (2d ed. 1972).

[2] See United States v. Downing, 753 F.2d 1224 (3d Cir. 1985); United States v. Williams, 583 F.2d 1194 (2d Cir. 1978), cert. denied, 439 U.S. 1117 (1979); United States v. Baller, 519 F.2d 463 (4th Cir.), cert. denied, 423 U.S. 1019 (1975); Whalen v. State, 434 A.2d 1346 (Del. 1980); State v. Hall, 297 N.W.2d 80 (Iowa 1980); State v. Catanese, 368 So.2d 975 (La. 1979); State v. Williams, 388 A.2d 500 (Me. 1978); State v. Williams, 4 Ohio St.3d 53 (1983); State v. Kersting, 50 Or.App. 461 (1981); Phillips ex rel. Utah Dep't. of Social Services v. Jackson, 615 P.2d 1228 (Utah 1980); Cullin v. State, 565 P.2d 445 (Wyo. 1977).

[3] In this case, the expert for the Commonwealth, Dr. Leonard Saxe, is "not specially trained or experienced in performing polygraph exams," according to the motion of the judge. On the other hand, the motion judge found that Dr. David Raskin, one of the defense experts, "is skilled in the operation of the polygraph ... [and] has performed over 700 exams and does training for the United States Secret Service and others." The other expert, William LaParl, has administered more than 15,000 polygraph tests and has been called on to testify as an expert by the office of the district attorney for the Northern District. The court should have taken these facts into account in its general acceptance analysis.

[4] The court's review of other jurisdictions' treatment of polygraph evidence places undue emphasis on the existence or nonexistence of stipulations. In criminal cases, the primary purpose of the stipulation is to assure that the defendant's constitutional rights have been preserved, as opposed to guaranteeing "fairness" to the prosecution. The waiver procedure established in Commonwealth v. A. Juvenile, 365 Mass. 421 (1974), and elaborated on in Commonwealth v. Vitello, supra, serves essentially the same function as a stipulation: it ensures that a defendant is aware of the risks of agreeing to submit to a polygraph test, and allows the admission of polygraph evidence only on consent of the defendant. This consideration severely undercuts the court's claim that there is a "nearly unanimous judicial consensus ... that polygraphic evidence, at least in the absence of a pretest stipulation, ought not be admitted as evidence in a criminal trial for any purpose" (emphasis added). Ante at .

(Case submitted by James A. Johnson, Jr. and Dennis J. Peloquin.)

Bennett v. City of Grand Prairie, Texas, 83 F.2d 400 (5th Cir. 1989)

Persons who had been arrested pursuant to an arrest warrant which was based in part on polygraph results brought action against individual officers and cities in the United States District Court for the Northern District of Texas, which dismissed the suit. They appealed.

The United States Court of Appeals, Fifth Circuit, considered the fact that the magistrate used polygraph results along with other evidence in determining that probable cause existed for issuance of an arrest warrant. The Court said that a magistrate, who possesses legal expertise, is unlikely to be intimidated by claims of scientific authority into assigning inappropriate evidentiary value to a polygraph report, or rely excessively on it. Moreover, a magistrate may determine probable cause from evidence that is inadmissible at trial, even hearsay evidence. Polygraph examinations, said the Court, "by most accounts correctly detect truth or deception 80 to 90 percent of the time." The Court concluded that "absent an abuse of discretion, a magistrate may consider these result ... when determining whether probably cause exists to issue an arrest warrant.

Also at issue was plaintiff's claim that her polygraph test was inconclusive. The Court thought otherwise, nothing the examiner stated she deceptively answered three critical questions, and emphasized that she was not truthful. The district court's dismissal of the suit was affirmed.

It is heartening to note that the Court cited in its footnotes articles on polygraph validity and reliability from sources outside the legal literature.

Note: In Japan, from April to July, 1973, polygraph results from cases of the Japanese National Police were used as the basis for arrest warrants in 12.7% of the polygraph cases, or 181 or 1,429 cases. See Akihiro Suzuki (1975). Field polygraph examination condition and analysis of its effective procedures. Reports of the National Institute of Police Science, 28, 15-22. [text in Japanese] See also People v. Lara, 12 Cal.3d 903, 117 Cal.Rptr. 549, 528 P.2d 365 (1974) and Herlong v. State, 223 S.E.2d 672 (Ga. 1976). [Editor]

(Case submitted by APA Member Charles "Pete" Pedersen.)

United States v. Lopez, 885 F.2d 1428 (9th Cir. 1989)

One of the defendants was convicted of escape and the other defendant was convicted of crimes associated with helping the escape, and they appealed.

The district court did not abuse its discretion in limiting the cross-examination of a witness, said the Ninth Circuit. Here, the defense attorney was trying to discredit the witness and to get him to admit he was upset when he heard that another person, whose testimony was contrary to his, had taken and passed a polygraph test. Prosecution objected and the

district court judge refused to allow further inquiry into the polygraph issue.

The Ninth Circuit Court of Appeals held to its previous rule that, absent a stipulation, polygraph evidence is inadmissible. Brown v. Darcy, 783 F.2d 1389 (9th Cir. 1986). Here, there was no error by the court.

Affirmed.

Brandon v. State, 300 Ark. 32, 776 S.W.2d 345 (1989)

State petitioned for revocation of suspended sentence for burglary when the defendant was charged with another burglary. The circuit court revoked the suspension of sentence and he appealed.

Just before the revocation the defendant asked for a chance to take a polygraph examination. The judge denied the request.

The Supreme Court of Arkansas said the judge did not err, because the state would not stipulate that the results would be admitted into evidence, a prerequisite to admission of the results as evidence. Hayes v. State, 298 Ark. 356, 767 S.W.2d 525 (1989).

McFadden v. State, 540 So.2d 844 (Fla.App. 3 Dist. 1989)

Defendant was convicted of receiving unlawful compensation by a public official and he appealed [bribery].

Prior to trial defendant moved to suppress his statement which included a discussion with a detective about a polygraph test in which the defendant said he would think about it. At trial, in the opening statement to the jury, defense counsel said the defendant said he would take the test, and the state objected, then moving for a mistrial which the defense resisted. The mistrial was granted and the defense then moved to dismiss the cause upon double jeopardy grounds.

The District Court of Appeals of Florida, Third District, observed that mere mention of polygraph results is grounds for a mistrial, although not every reference to the polygraph need be so. The Court said that the defense statement, although in error, was not so bad as to ruin the entire trial, and a curative instruction would have sufficed. The cause was remanded to the trial court with directions to discharge the defendant.

Lands v. State, Ga.App. No. 77626, 99 FCDR 238, Nov. 22, 1988

Defendant was convicted of child molesting and he appealed.

At trial, a police officer was asked what the defendant said when he asked him if he thought the child was lying. The police officer said that the defendant responded that she may or may not be lying. In actuality, the

officer asked for his reaction to the fact that the child victim had passed the polygraph test and whether he thought the child was lying; but at trial the first part of the officer's question was deleted. Defendant claimed on appeal that his response should have been inadmissible because it was elicited in the course of discussing the victim's polygraph results.

The Georgia Court of Appeals observed that nothing was said at trial about the polygraph test, and the officer was asked only what the defendant said in response to being asked if he felt the child was lying about the alleged molestation. Since the testimony in the case did not concern a polygraph test or test results, it was admissible.

(Case submitted by APA Member Ron Evans.)

Pearson v. State, 543 N.E.2d 1141 (Ind.App. 1 Dist. 1989)

The defendant was convicted of rape, burglary and battery, and he appealed for post conviction relief.

The appellate court held that the defendant was not denied effective assistance of counsel because his attorney submitted at trial a five-page police report on the incident at issue to rebut one fact, but in another place the report made reference to the fact that Pearson had refused to take a polygraph examination. Defendant said the reference should have been deleted. The court agreed the item was inadmissible, but his attorney submitted it, and that did not amount to ineffective assistance of counsel, as the court failed to see how Pearson's defense was harmed.

Casada v. State, 544 N.E.2d 189 (Ind.App. 1 Dist. 1989)

Defendant was convicted of two counts of attempted child molesting, and he appealed.

The defendant claimed the trial court erred in admitting polygraph evidence,over his objection. In the stipulation which was in writing and signed by the defendant and the prosecuting attorney, he waived his right to counsel. After his conviction, defendant claimed he could not waive his constitutional right to counsel. However, the appellate court ruled that the right to counsel did not attach because he was not yet indicted or arrested. The court said the results of the polygraph test were competent evidence because of a proper stipulation between the defendant and the prosecuting attorney.

Reversed and remanded for other reasons.

Smith v. State, 547 N.E.2d 817 (Ind. 1989)

The defendant was convicted of felony murder and the death sentence was imposed; and he appealed.

There was considerable comment at trial about a witnesses' unchallenged claim that he took a polygraph test that said he was telling the truth. The Supreme Court of Indiana observed that absent a stipulation, polygraph evidence is inadmissible in Indiana. Counsel knew of the polygraph test and failed to ask for motion in limine, failed to object to the testimony and move for a mistrial when it was admitted, and object again when it was mentioned by the prosecution.

Reversed and remanded for a new trial because defense counsel's errors in penalty and guilty phases amounted to ineffective counsel.

State v. Green, 781 P.2d 678 (Kan. 1989)

Defendant was convicted of first-degree murder and related offenses, and he appealed.

A witness testified that he overheard a conversation (relevant to the trial) and said that he first mentioned it to the police during a polygraph examination he took as an applicant with the Wichita Police Department, and that he gave the information as a reason for his failure to pass the test. However, on cross-examination he admitted he overheard the conversation after he took his test, and the state used this discrepancy to impeach his testimony.

The Supreme Court of Kansas said the state did not overstep the restrictions on mentioning the polygraph. The Supreme Court said the trial court did not err in permitting the cross-examination or in denying the motion for a mistrial.

Affirmed in part, and reversed in part for other reasons.

State v. Hammon, 781 P.2d 1063 (Kan. 1989)

Defendant was convicted of two counts of rape and he appealed.

Defendant said the trial court erred in denying a motion for a mistrial when he, the defendant, mentioned a polygraph test he took. He claimed the prosecutor induced the statement.

The Supreme Court of Kansas said the trial court did not abuse its discretion in denying the mistrial. Here, without mentioning the polygraph, state was asking about statements defendant made during a polygraph test, to impeach his testimony. The state did not ask about or mention the test.

Affirmed.

State v. Fenney, 448 N.W.2d 54 (Minn. 1989)

Defendant was convicted of first and second degree murder, and he appealed.

Reference was made to polygraph testing in the context of laying a foundation for opinion testimony as to Fenney's reaction to being accused of murder.

The Supreme Court of Minnesota said that both the polygraph and demeanor testimony were wrongfully admitted. However, the court said that under the facts of this case the error was not reversible error.

Affirmed.

State v. McPherson, 771 P.2d 120 (Mont. 1989)

The defendant was convicted of four counts of sexual assault against children and he appealed.

The District Court, in imposing sentence, considered two mental health evaluations which referred to a polygraph test administered to the defendant.

The Supreme Court of Montana said "We have long abhorred the use of lie detector evidence and have consistently held it inadmissible." State v. Bashor (1980) 188 Mont. 397, 614 P.2d 470. The Court said that the testimony of an examiner is often the determinative factor, which deprives the defendant of the common-sense collective judgment of his peers.

However, in this case, the polygraph issue was brought up in sentencing. The court must consider a presentence report when imposing sentence, and in doing so there will be a wide variety of information that is not admissible at trial. In McPherson, defendant submitted three mental health evaluations and two of them referred to a polygraph examination of the defendant. The Supreme Court of Montana said the trial judge was free to consider the mental health evaluations, but was not required to do so. The court could have refused to consider the polygraph reports in sentencing, as happened in State v. Turley (1974), 164 Mont. 231, 521, P.2d 690. The Supreme Court said they continue to hold that polygraph evidence is inadmissible at trial, but in this case, the defendant invited the error and cannot now complain that it was in the record.

Affirmed.

State v. Pitts, 562 A.2d 1320 (N.J. 1989)

Defendant was convicted of two counts of murder and several other offenses, and was sentenced to death. He appealed.

One of his appeals related to the trial court ruling that a forensic psychiatrist who examined the defendant while the defendant was under the influence of a barbiturate (sodium amytal) would not be permitted to give expert testimony in the guilt phase of the trial that was based on factual conclusions derived from the defendant's statements during the drugged

state. However, Dr. Robert Sadoff's opinion would be admissible if based on hypothetical facts consistent with evidence in the record.

During the penalty phase the defense again sought to present Dr. Sadoff's expert testimony to support the existence of mitigating factors. The same ruling was made.

The Supreme Court of New Jersey cited Romano v. Kimmelman. 474 A.2d 1, 96 N.J. 66 (1984) which supports the "general acceptance in the scientific community" rule. In this case three experts agreed there were scientifically acceptable uses of testimony induced by sodium amytal, but the tests were not reliable for the purpose of ascertaining the truth. The state Supreme Court was in full agreement with the trial court's ruling that precluded Dr. Sadoff from using the drug induced interview to provide expert opinion on the defendant's state of mind. The court noted this was consistent with their earlier opinion on sodium amytal results to prove truth, State v. Leviy, 36 N.J. 266, 176 A.2d 465 (1961) and State v. Sinnott, 24 N.J. 421, 132 A.2d 298.

Affirmed in part, reversed in part for other reasons.

State v. Reyes, 237 N.J. Super. 250, 567 A.2d 287 (1989)

Defendant was convicted of aggravated assault and possession of a knife for an unlawful purpose, and he appealed.

Defendant claimed that the trial court erred in allowing a state polygraph examiner to testify about the results of his polygraph examination [which was followed by a confession]. Defendant, before he was charged, and before he retained counsel, signed a stipulation agreeing to the test and the subsequent admission at trial of the testimony of the examiner, subject to cross-examination. The stipulation was fully explained and the agreement met the requirements of prior case law, State v. McDavitt, 62 N.J. 36 (1972). Defendant claimed the stipulation should have been void because he signed the stipulation without benefit of counsel.

The Superior Court of New Jersey, Appellate Division, took note of the appeal but said that the defendant's right to counsel did not attach until the initiation of adversary judicial criminal proceedings against him. In this case it meant that there was no right to counsel until Reyes was charged. The stipulation and confession was before he was charged. Also, he had waived counsel following Miranda warnings. Actually he was in custody for his arrest for an unrelated charge, but the court said that did not apply to the case before them. The appellate court also noted that the defendant had intelligently and knowingly entered into the stipulation, well established by the trial court.

The conviction was affirmed. J. D'Annunzio, concurring, said he had reservations regarding the enforceability at trial of an uncounseled polygraph stipulation. He thought there was a considerable difference in giving to police a statement which may be entered into evidence, prior to charging, and entering into an agreement about the admissibility of evidence.

However, because of the overwhelming evidence of the defendant's guilt, he did not want to attempt to resolve the issue in this case.

State v. Harper, 47 Ohio App.3rd 109, 547 N.E.2d 395 (1988)

The defendant pleaded guilty when he was denied a plea of no contest.

The appellate court said it was not error to deny the defendant's request for a continuance to obtain a polygraph examination. The defendant said that a polygraph test would prove that he and the victim were part of a theft ring which stole from the store. However, the prosecutor saw no reason to agree to the test, per State v. Souel, 53 Ohio 2d 123, 372 N.E.2d 1318 (1978).

The refusal of the defense of no contest was an abuse of discretion and warranted reversal and remand for a new trial.

* * * * * *

TWO NEW LAWS IN NEVADA FURTHER LIMIT POLYGRAPH TESTS AND EXAMINERS

A.B. 712 RELATING TO EMPLOYMENT PRACTICES

An Act relating to employment practices; prohibiting certain employers from requiring an employee or a prospective employee to submit to a lie detector test; prohibiting an employer from taking any adverse employment action based upon the results of a lie detector test or the refusal or an employee to take a lie detector test; authorizing the use of polygraphic examinations under certain circumstances; providing penalties; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 613 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 to 9, inclusive, of this act.

Sec. 2. As used in sections 2 to 9, inclusive, of this act, unless the context otherwise requires:

1. "Employer" includes any person acting directly or indirectly in the interest of an employer in relation to an employee or prospective employee.

2. "Lie detector" means a polygraph, voice stress analyzer, psychological stress evaluator or any other similar device, whether mechanical or electrical, that is used, or the results of which are used, for the purpose of rendering a diagnostic opinion regarding the honesty or dishonesty of an individual.

3. "Polygraph" means an instrument that:

(a) Visually, permanently and simultaneously records cardiovascular activity, respiratory activity and changes in skin resistance; and

(b) Is used, or the results of which are used, for the purpose of rendering a diagnostic opinion regarding the veracity of any statement made by the person examined.

4. "Polygraphic examination: Means a test administered with a polygraph.

Sec. 3. Except as otherwise provided in section 9 of this act, it is unlawful for any employer in this state to:

1. Directly or indirectly, require, request, suggest or cause any employee or prospective employee to take or submit to any lie detector test;

2. Use, accept, refer to or inquire concerning the results of any lie detector test of any employee or prospective employee;

3. Discharge, discipline, discriminate against in any manner or deny employment or promotion to, or threaten to take any such action against any employee or prospective employee;

(a) Who refuses, declines or fails to take or submit to any lie detector test; or

(b) On the basis of the results of any lie detector test; or

4. Discharge, discipline, discriminate against in any manner, deny employment or promotion to or threaten to take any such action against any employee or prospective employee who has:

(a) Filed any complaint or instituted or caused to be instituted any legal proceeding pursuant to sections 2 to 9, inclusive, of this act;

(b) Testified or many testify in any legal proceeding instituted pursuant to sections 2 to 9, inclusive, of this act; or

(c) Exercised his rights, or has exercised on behalf of another person the rights afforded him pursuant to sections 2 to 9, inclusive, of this act.

Sec. 4. 1. The labor commissioner:

(a) May adopt any regulations necessary or appropriate to carry out the provisions of sections 2 to 9, inclusive, of this act; and

(b) Shall prepare and distribute to employers in this state, a notice setting forth a summary of the provisions of sections 2 to 9, inclusive, of this act.

2. Each employer shall post and maintain the notice in a conspicuous location at the place of employment where notices to employees and applicants for employment are customarily posted and read.

Sec. 5. L. The labor commissioner may, after notice and an opportunity for a hearing, impose a civil penalty of not more than $9,000 for each violation of any provision of sections 2 to 9, inclusive, of this act. In determining the amount of any penalty, the labor commissioner shall consider the previous record of the person committing the violation in terms of compliance with sections 2 to 9, inclusive, of this act, and the gravity of the violation. The civil penalty imposed by this subsection is in addition to any other penalties provided pursuant to sections 2 to 9, inclusive, of this act.

2. The labor commissioner may bring an action pursuant to this section to restrain violations of sections 2 to 9, inclusive, of this act. A court of competent jurisdiction may issue, without bond, a temporary or permanent restraining order or injunction to require compliance with sections 2 to 9, inclusive, of this act, including any legal or equitable relief incident thereto as many be appropriate, such as employment of a prospective employee, reinstatement or promotion of an employee and the payment of lost wages and benefits.

Sec. 6. 1. An employer who violates the provisions of the sections 2 to 9, inclusive, of this act, is liable to the employee or prospective employee affected by the violation. The employer is liable for any legal or equitable relief as may be appropriate, including employment of a prospective employee, reinstatement of an employee and the payment of lost wages and benefits.

2. An action to recover the liability pursuant to subsection 1 may be maintained against the employer by an employee or prospective employee:

(a) For or on behalf of the employee or prospective employee; and

(b) On behalf of other employees or prospective employees similarly situated.

An action must not be commenced pursuant to this section more than 3 years after the date of the alleged violation.

3. In any action brought pursuant to this section, the court, in its discretion, may allow the prevailing party reasonable costs, including attorney's fees.

Sec. 7. Unless stipulated in a written settlement agreement signed by all parties to a pending action or compliant filed pursuant to sections 2 to 9, inclusive, of this act, any waiver of the rights and procedures provided by sections 2 to 9, inclusive, of this act is against public policy and is void.

Sec. 8. The provisions of sections 2 to 9, inclusive, of this act, do not apply to this state or any political subdivision of this state.

Sec. 9. 1. Except as otherwise provided in subsection 2, the following are exempt from the provisions of sections 2 to 8, inclusive, of this act:

(a) Any employer who requests an employee to submit to a polygraphic examination if:

(1) The examination is administered in connection with an ongoing investigation involving economic loss or injury to the employer's business, including theft, embezzlement, misappropriation or an act of unlawful industrial espionage or sabotage;

(2) The employee had access to the property that is the subject of the investigation;

(3) The employer has a reasonable suspicion that the employee was involved in the incident or activity under investigation; and

(4) The employer provides to the employee, before the examination, a written statement that:

(I) Sets forth with particularity the specific incident or activity being investigation;

(II) Is signed by the employer or an agent of the employer;

(III) Is retained by the employer for at least 3 years; and

(IV) Contains an identification of the specific economic loss or injury to the business, a statement indicating that the employee had access to the property and a statement describing the basis of the employer's reasonable suspicion that the employee was involved in the incident.

(b) The use of polygraphic examinations on prospective employees who would be employed to protect:

(1) Facilities, materials or operations having a significant impact on the health or safety of this state or any political subdivision of this state; or

(2) Currency, negotiable securities, precious commodities or instruments or proprietary information,

requested by the potential employer whose primary business is to provide armored car personnel, personnel engaged in the design, installation and maintenance of security alarm systems or other security personnel.

(c) The use of a polygraphic examination by any employer authorized to manufacture, distribute or dispense a controlled substance if:

(1) The examination is administered to a prospective employee who would have direct access to the manufacture, storage, distribution or sale of any controlled substance; or

(2) The examination is administered to a current employee in connection with an ongoing investigation of misconduct involving a controlled substance manufactured, distributed or dispensed by the employer if the employee had access to the property that is the subject of the investigation.

2. The exemptions provided in subsection 1 are applicable only if:

(a) The polygraphic examination is administered by a person who holds a valid license as a polygraphic examiner or intern or is qualified as a polygraphic examiner and is exempt from the requirement of licensing pursuant to the provisions of chapter 648 of NRS; and

(b) The results of a polygraphic examination or the refusal to take a polygraphic examination is not used as the sole basis upon which an adverse employment action is taken against an employee or prospective employee.

A.B. 53 RELATING TO WAIVERS OF POLYGRAPH EXAMINER'S LIABILITY

An Act relating to polygraphic examinations; prohibiting the use of waivers to limit a polygraphic examiner's liability; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 648 of NRS is hereby amended by adding thereto a new section to read as follows:

A person shall not request any person examined to sign a waiver limiting the liability of the examiner or intern. Any such waiver is void.

NEW NEVADA LAW REQUIRES AN OFFICER TO TAKE TEST IF COMPLAINANT PASSES A TEST

A.B. 796 RELATING TO RIGHTS OF PEACE OFFICERS

An Act relating to peace officers; expanding the group of persons defined as "peace officers" for the purposes of certain rights of employees; revises provisions regarding the requirement that a peace officer submit to a polygraph examination under certain circumstances; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE, AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 289.010 is hereby amended to read as follows:

289.010 As used in this chapter, unless the contest otherwise requires:

1. "Peace officer" means:

(a) Sheriffs of counties and of metropolitan police departments and their deputies;

(b) Personnel of the Nevada highway patrol; [and]

(c) Marshals and policemen of cities and towns[.]

(d) The bailiff of the supreme court and bailiffs of the district courts, justices; courts and municipal courts;

(e) Constables and their deputies; and

(f) Any other officer or employee of state or local government upon whom some or all of the powers of a peace officer are conferred by specific statute.

2. "Punitive action" means any action which may lead to dismissal, demotion, suspension, reduction in salary, written reprimand or transfer of a peace officer for purposes of punishment.

Sec. 2. NRS 289.070 is hereby amended to read as follows:

289.080 1. An investigation of a peace officer may be conducted in response to an allegation that an officer has engaged in activities which could result in punitive action.

2. If a person who makes such an allegation against an officer submits to a polygraphic examination and the results of that examination indicate that the person examined is telling the truth about the purported activities, the officer against whom the allegation is made must submit to a polygraphic examination concerning such activities.

3. If a polygraphic examination is given to an officer pursuant to this section, a sound or video recording must be made of the examination, the preliminary interview and the post-examination interview. Before the opinion of the examiner regarding the officer's veracity may be considered in a disciplinary action, all records, documents and recordings resulting from the examination must be made available for review by one or more examiners licensed or qualified to be licensed in this state who are acceptable to the law enforcement agency and the officer. If the opinion of the reviewing examiners does not agree with the initial examiner's opinion, the officer must be allowed to be reexamined by an examiner of his choice who is licensed or qualified to be licensed in this state.

4. The opinion of the examiner regarding the officer's veracity may not be considered in a disciplinary action unless the examination was conducted in a manner which complies with the provisions of chapter 648 of NRS. In any event, the law enforcement agency shall not use the examiner's opinion regarding the veracity of the officer as the sole basis for disciplinary action against the officer.

5. If the officer refuses to submit to a polygraphic examination required by this section:

(a) A law enforcement agency may take disciplinary action against that officer; and

(b) An investigator may make a notation of the refusal in his report.

[4.]6. Evidence of any refusal by a peace officer to submit to a polygraphic examination required by this section is admissible if introduced by any governmental body or agency in this state at any subsequent hearing, trial or other judicial or administrative proceeding.

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ABSTRACTS

Interrogation

"Influences of an Interviewer's Behaviors in Child Sexual Abuse Investigations." Kathleen M. Quinn,M.D.; Sue White, Ph.D.; and Gail Santilli, M.S.S.A. Bulletin of the American Academy of Psychiatry Law 17(1)(1989): 45-52.

The content of an investigatory interview is one of several factors which may influence the data in the course of a sexual abuse investigation. This article focuses on the impact of an interviewer's behaviors upon the information presented by the alleged victim. Behavioral aspects of the interview which may influence the child's information include inappropriate interactional patterns, emotional reactions of the interviewer, and/or changes in continuity of specific behaviors. Recommendations are made to assist investigators in avoiding these interviewing pitfalls and, thereby, minimizing contamination of the child's data. [author abstract]

Gisli H. Gudjonsson (1989). Compliance in an Interrogative Situation: A New Scale. Personality and Individual Differences [Great Britain], 10(5), 535-540.

The paper describes the development of a compliance questionnaire by the author which compliments his original scale, the "Gudjonsson Suggestibility Scale." In Britain, the scale stimulated a considerable amount of research and resulted in the development of a theoretical model of suggestibility in police interrogation. The new questionnaire consists of 20 true-false statements which have particular application to interrogative situations involving retracted confession statements. The report indicates satisfactory internal consistency and test-retest reliability and data which support the construct validity of the questionnaire.

This second work by Gudjonsson may be more resistant to self-report bias and possible faking than the earlier compliance questionnaire. Forensic psychologists will find this scale particularly useful.

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For reprints of the article and more information on the questionnaires, write to Dr. Gisli H. Gudjonsson, Department of Psychology, Institute of Psychiatry, De Crespigny Park, Denmark Hill, London SE5 8AF, England.

Culture and Lying

Leonard Bloom (1980). Lying and Culture: A West-African Case Study. Journal of Psychological Anthropology, 3(2), 175-184.

The relationship between lying and cultural factors is examined in a case study of a West-African male. Focus is on the psychological consequences of poverty and the emphasis on status and power as they contribute to the use of fantastic elaboration as an ego protective device. In Western patients, compulsive, fantastic elaboration is usually regarded as a symptom of psychopathology, indicative of the patient's tenuous awareness of the boundary between reality and unreality. The phantasizing of this young Nigerian man, is thought not to be unique, but rather his defense mechanism against anomie, those of his society; and the individual psychopathology is supported by a collective collusion in accepting the phantasy as real. It is suggested that compulsive elaboration may sometimes be rooted in an interaction of personal psychodynamics and cultural factors.

Nonverbal Detection of Deception

Bella M. DePaulo and Roger L. Pfeifer (1986). On-the-job Experience and Skill at Detecting Deception. Journal of Applied Social Psychology, 16(3), 249-267.

The value of experience in detecting deception from verbal and vocal cues examined by giving nonverbal detection tasks to three groups of subjects, undergraduates, new police recruits, and experienced policemen. Although the recruits and officers were more confident about their judgments at detecting deceit, they were no more capable than the students.

Requests for reprints should be addressed to Dr. Bella DePaulo, Department of Psychology, Gilmer Hall, University of Virginia, Charlottesville, VA 22903-2477.

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THE READING CORNER

By

Janet Kay Pumphrey

Our readers have found that it is necessary to keep up-to-date on other organizations, scientific, political and sociological aspects of the detection of deception field. To assist in this need, "The Reading Corner" has been developed to provide citations of current pamphlets, books, and

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The value of experience in detecting deception from verbal and vocal cues examined by giving nonverbal detection tasks to three groups of subjects, undergraduates, new police recruits, and experienced policemen. Although the recruits and officers were more confident about their judgments at detecting deceit, they were no more capable than the students.

Requests for reprints should be addressed to Dr. Bella DePaulo, Department of Psychology, Gilmer Hall, University of Virginia, Charlottesville, VA 22903-2477.

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THE READING CORNER

By

Janet Kay Pumphrey

Our readers have found that it is necessary to keep up-to-date on other organizations, scientific, political and sociological aspects of the detection of deception field. To assist in this need, "The Reading Corner" has been developed to provide citations of current pamphlets, books, and

articles. We welcome reader participation in this service. Please send full citations to APA, "The Reading Corner", P.O. Box 1061, Severna Park, Maryland 21146.

This issue's source: PAIS BULLETIN (1989). Subject heading: Lie Detectors.

Album, Michael J. "Polygraphs: New Developments on the Regulatory Scene." Employment Relations Today, 15: 295-300 Winter '88/'89.

Coil, James I., III. "The Polygraph Protection Act Becomes Law." Employment Relations Today, 15: 181-190 Autumn '88.

Johnson, Peter C. "Banning the Truth-Finder in Employment: The Employee Polygraph Protection Act of 1988." Missouri Law Review, 54: 155-174 Winter '89.

Nowlin, William A. and Robert Barbato. "The Truth About Lie Detectors: Do Lie Detectors Do More Harm Than Good?" Business and Society Review, p. 18-21 Summer '88.

Sant'Angelo, Alan A. "Enforcing New Jersey's Workplace Lie Detector Law." Criminal Justice Quarterly, 9: 295-307 Summer '88.

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Special Notice to APA Members and Their Clients: the Employee Polygraph Protection Act: A Manual for Polygraph Examiners and Employers by F. Lee Bailey, Roger E. Zuckerman and Kenneth R. Pierce is being offered to APA Members and their Clients for a special price of $10.00 postpaid. This price is good until June 1, 1990. Send your check and mailing instructions to:

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