

April 1989

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Recommended Citation

John A. Ronayne, *Admissibility of Testing by the Psychological Stress Evaluator Commentary*, 9 Pace L. Rev. 243 (1989)

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Commentaries

Admissibility of Testing by the Psychological Stress Evaluator

John A. Ronayne, Esq.†

I. Introduction

Dean Wigmore's statement: "If there is ever devised a psychological test for the valuation of witnesses, the law will run to meet it,"¹ was made over sixty years ago. Rather than running to meet the use of the lie detector as a test for the evaluation of witnesses, the law, as reflected in appellate court decisions, has gone to unusual extremes to avoid it.

The use of electronic devices such as Voice Stress Analyzers or Psychological Stress Evaluators as methods of voice stress analysis has developed during the last ten years. The voice analysis test relies upon the electronic recording of the physical characteristics of the human voice as a measure of "stress" or "psychological stress." These devices have been used to try to determine if the subject of the test was lying in response to questions, just as the polygraph has been used as a lie detector. Electronic analysis of the voice spectrum, directed toward lie detection, has been the subject of scientific testing for a much shorter period of time than the polygraph. Due to the limited opportunities for judicial appraisal of proofs submitted in support of the voice analysis test, these new devices have fared no better in court than the polygraph. The admissibility of the results of a polygraph test has been denied by appellate courts

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1. 2 J. WIGMORE, WIGMORE ON EVIDENCE § 875, at 237 (2d ed. 1923).

since 1923.²

*Frye v. United States*³ was the first appellate court decision on the admissibility of the results of a lie detector test in a trial. The trial court judge refused to admit into evidence the results of tests conducted by Professor Marston on the defendant Frye, who was on trial for murder. After Frye's conviction, the refusal to admit the test results was raised as error on the appeal.⁴

The United States Circuit Court of Appeals rejected Frye's contention of error and upheld the inadmissibility of the evidence. Ironically, *Frye* was decided in 1923, the same year that Wigmore published his statement. The *Frye* court specifically stated:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and 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.

We think the systolic blood pressure deception test has not yet gained such standing and scientific recognition . . . as would justify the courts in admitting expert testimony deduced from the discovery, development, and experiments thus far made.⁵

The court's rejection of the particular form of the lie detector test, the systolic blood pressure test, was correct at the time and stage of development of the instrumental detection of deception.⁶ The landmark decision in *Frye*, however, stands immovable even today. For over sixty years, all other appellate courts considering the question have "parroted"⁷ its language that the lie detector has not yet achieved "general acceptance in

2. See *infra* notes 4-9 and accompanying text.

3. 293 F. 1013 (D.C. Cir. 1923).

4. *Id.* at 1014.

5. *Id.*

6. The systolic blood pressure test was performed using a standard medical blood pressure cuff with the standard sphygmomanometer dial. The readings from the dial were recorded by hand and then plotted on graph paper. For a description of the method used, see Marston, *Psychological Possibilities in the Deception Tests*, 11 J. CRIM. L. C. & P.S. 551 (1921).

7. Wicker, *The Polygraphic Truth Test*, 22 TENN. L. REV. 711, 723 (1953).

the particular field in which it belongs.”⁸ The denial of admissibility of the evidence offered by Professor Marston, though legally correct at the time, was most unfortunate for the defendant. James A. Frye was ultimately found innocent of the crime and released from prison several years later, when another man confessed to the crime for which Frye had been convicted.⁹

A. *Nature of the Problem*

The *Frye* decision correctly pinpointed the admissibility of expert testimony as the true issue in the case. Many cases decided since *Frye* and many legal commentators have mistakenly directed their attention to the question of the accuracy or reliability of lie detectors. The mechanical, electronic, or electromechanical devices used for the instrumental detection of deception are not “lie detectors.” They are merely scientific devices for recording physiological phenomena of the human body. The polygraph records variations in the respiration, blood pressure, pulse, and galvanic skin reflex by registering ink on a moving chart. The voice analysis instruments usually record the human voice on tape or tape cassettes, and replay the tapes through the analysis equipment, producing a graph of the inaudible changes in the voice frequency modulation. In theory, changes in the strength and pattern of the graph of the human voice are caused by the degree of psychological stress of the speaker.

Yet, none of these machines can detect lies by itself. Just as the interpretation of an X-ray plate and the presentation as evidence to a court requires an expert radiologist or a skilled physician, the qualifications of an expert in the field of the instrumental detection of deception are likewise essential to the admissibility of the results from a lie detector test.

The other major problem of proof in the admissibility of evidence of lie detection by mechanical or electronic devices is proof of the connection between the recorded physiological changes and lying. Actually, the body’s hormonal responses to an emotional situation or to stress rapidly induce a variety of

8. *Frye*, 293 F. at 1014.

9. FOURTEENTH ANN. REP. N.Y. JUD. COUNCIL 265 (1948).

physiological changes, including blood pressure, respiration, pulse, and the psychogalvanic response used in the polygraph to detect deception. When the speaker is under stress, voice analysis devices detect variations in microtremors or inaudible voice frequencies.

The problem in the instrumental detection of deception, still not resolved completely, is the pinpointing of the emotional responses associated with lying. Emotional response or stress may arise from sources other than lying. The instruments used in the polygraph or the voice stress analyzers record variations to any emotional response or stress. Experience with the polygraph has shown that the emotional responses of a person who has actually committed a crime and is being administered a polygraph test are remarkably more intense and more readily observable than the responses of a person being tested in a simulated laboratory experiment. Variations in the voice microtremors recorded on the voice analysis equipment are not as readily observable.

The questions prepared by the examiner and asked of the subject under controlled conditions are designed to distinguish whether variations in the recorded responses were due to lies or to other stresses or emotions. The preparation and administration of the questions in the test are critical in distinguishing between stress caused by falsehood and stress caused by fear, anxiety, or other reasons. To identify variations attributable to lying, the examiner must establish a norm by obtaining responses to neutral or control questions. Repetition of the series of questions will produce reduced or normal responses to noncritical questions while responses to critical questions will remain high or increase.

B. *The Polygraph*

The so-called "polygraph" was in existence as early as 1908 as an instrument used in medical examinations by Dr. James Mackenzie, an English heart specialist. He described the instrument used for measuring and recording pulse and respiration on a moving chart as "The Ink Polygraph."¹⁰ The objective measur-

10. Mackenzie, *The Ink Polygraph*, 1 BRIT. MED. J. 1411 (1908), reprinted in INBAU,

ing and recording of physiological changes have been matters of interest to researchers in experimental psychology for many years. The polygraph test is based upon the findings by psychologists that deviations from truth in the form of conscious lies cause an emotional response which can be detected by scientific measuring devices.

Professor Hugo Munsterberg, Professor of Psychology at Harvard University, published a book on his studies of the effects of emotions upon bodily functions in 1923.¹¹ Professor Munsterberg concluded that experimental psychology could furnish everything a court demands in the detection of lying.¹² More recently, Dr. David Lykken, referring to the polygraph, wrote in the magazine *Psychology Today*: "When lie-detector tests are designed, administered and evaluated properly, they may be one of the most valid psychological tools we possess."¹³

Research conducted for more than sixty-five years into physiological responses (called the cardiovascular, respiratory, and galvanic responses) which are recorded upon the polygraph indicates that these responses are based upon the functioning of the human brain and the autonomic nervous system.¹⁴ The autonomic nervous system responds to emergencies and to the emotions of a person under stress. Thus a conscious lie causes a reaction in the autonomic nervous system which can be detected and recorded by the instruments in the polygraph.¹⁵

C. *Voice Analysis*

Compared to the polygraph, voice analysis as a lie detection technique does not have the years of scientific research needed to authenticate it as reliable. In fact, none of the research performed and reported so far, except for that conducted by a manufacturer of the equipment (which tested only three subjects), has found voice analysis to be reliable.¹⁶

MOENSSENS & VITULLO, SCIENTIFIC POLICE INVESTIGATION (1972).

11. H. MUNSTERBERG, ON THE WITNESS STAND (1923).

12. *Id.* at 108-10.

13. Lykken, *The Right Way to Use a Lie Detector*, 8 PSYCHOLOGY TODAY 56 (1975).

14. FERGUSON & MILLER, THE POLYGRAPH IN COURT 102-05 (1973).

15. *Id.*

16. Kubis, Comparison of Voice Analysis and Polygraph as Lie Detection Procedures (unpublished report) (prepared for U.S. Army Land Warfare Laboratory,

Four of five different instruments designed for the electronic analysis of the speech spectrum have appeared on the market, all apparently directed at lie detection. One instrument is known as the Dektor Psychological Stress Evaluator. The Psychological Stress Evaluator and several voice stress analyzers produce a graph of the variations of microtremors in the subject's voice. In comparison, the Hagoth Voice Stress Analyzer

DAAD05-720C-0317, August 1973); Nachson & Feldman, *Vocal Indices of Psychological Stress: A Validation Study of the Psychological Stress Evaluator*, 8 J. POL. SCI. & ADMIN. 40-53 (1980). In this latest validation study under scientific conditions, Professor Nachson, the Chairman of the Department of Criminology at Bar-Ilan University, Israel, and Benjamin Feldman, a clinical psychologist at Kaplan Hospital, Rehovot, Israel, conducted tests with three trained PSE examiners on graduate students under laboratory conditions and also on tape recordings of the verbal responses of criminal suspects undergoing standard polygraph interrogations by staff members of the Laboratory for Scientific Interrogation of the Israel Police at police headquarters. Their laboratory tests on the graduate students were made under two conditions: the first, a card test requiring the examiners to pick out the correct card selected by the subject and the second, a "Horror Picture Test" in which the subject was shown neutral color pictures of landscapes and then pictures of accident victims and told to respond to all views: "Yes, I like this picture."

In the card test, none of the trained examiners scored better than 40% in identifying correctly the card picked by the subject. All three judges examining the same PSE record reached a common decision only 10% of the time. In the "Horror Picture Test," no examiner identified the false statement in more than 50% of these cases.

Since results of polygraph studies have shown that different results are obtained in field studies of criminal suspects from those obtained under laboratory conditions, field tests were conducted by Nachson and Feldman by recording the verbal responses of suspected criminals under polygraph interrogation by the police; the investigators then prepared PSE charts in the same manner as in the laboratory study. All of the criminal suspects were also given card tests before the polygraph examination. Their answers were recorded, and PSE charts were prepared for the examiners to study.

In the card test, an examiner's decision was considered correct when it corresponded with the suspect's actual selection. No single examiner made more than 21% correct identifications of the cards from the PSE charts of the suspects. For the polygraph test, validity of the PSE chart selection was determined by comparing the PSE decisions with the corresponding polygraph decisions. The PSE decision was considered correct when it corresponded with the polygraph decision. No PSE examiner scored better than 53.6% in distinguishing those who were lying from those who were telling the truth. The level of accuracy by pure chance would be 50%.

Nachson and Feldman concluded that no test in their study produced any validation for the use of the PSE as a detector of psychological stress. Tobin, *A Validation of Voice Analysis Techniques for the Detection of Psychological Stress*, 6 CRIME & SOC. DEVIANANCE 50-54 (1978). In this scientific study, which included both card tests and polygraph interrogations performed on 32 criminal suspects, Tobin found the Stress Evaluator was not valid for the detection of deception. DECISION CONTROL INC., U.S. ARMY LAND WARFARE LABORATORY, TECHNICAL REPORT No. LWL-CR-03B70, APPLICATION OF VOICE ANALYSIS METHOD (1971).

does not use a graph or chart, but displays a series of green lights if the subject is not under stress and red lights if he is under stress.¹⁷ Another voice stress analyzer produces a digital read out, indicating by numerical means either stress or the telling of a lie. Other voice stress analyzers have been produced in the form of a wrist watch or to resemble a pocket-sized calculator.

The manufacturers of these voice analysis instruments claim an advantage over the polygraph in that no physical attachments, such as the blood pressure cuff or respiration tubes, are affixed to the subject. One objection to voice analysis equipment is that it can be used without the speaker's knowledge by a person operating a voice analysis device over the telephone. One union protested that such devices were being used by an employer against employees who called in sick, to determine if they were telling the truth.¹⁸ Objections by unions and civil rights organizations have resulted in legislation banning the use of voice analyzers in employment investigation or in other investigations outside of criminal matters.¹⁹

II. Research into Validity of Voice Analysis

Research into the validity of the use of two voice analysis machines was performed for the United States government by Dr. Joseph F. Kubis of Fordham University in 1973.²⁰ Studies in

17. HAMILTON, HAGOTH AN ANTHOLOGY, HAGOTH CORPORATION (1978).

18. N.Y. Times, Feb. 21, 1973, at 47, col. 5.

19. N.Y. LAB. LAW §§ 733-39 (McKinney 1988).

20. Kubis, *supra* note 16. This study involved a simulated theft, with one student playing the part of the thief, one the lookout, and one the innocent person who was kept away from the theft. The thief was told to enter the office of a female professor, open her handbag which was on the desk, examine the contents of the bag, and remove only the contents of the change purse. The change purse contained \$21 in bills, wrapped in a red ribbon. The lookout was to stand in the hall outside the professor's office to make sure that no one was around when the thief entered the office. The victim professor's office was not actually in use by anyone at the time, but other offices on the same floor were in use by professors and students. After the simulated theft, the three students were kept separate and examined separately.

One hundred thirty-seven of the students in the group of 174 were examined by a polygraph operator in the presence of a graduate student who acted as a tape recorder monitor, recording the subject's words so that they could later be replayed through the voice analysis machines. The remaining 37 students were not tested on the polygraph, but they were questioned and their answers were recorded for analysis on the voice anal-

the detection of deception by lie detectors were begun at Fordham University by Father Summers in the 1930s²¹ and have continued over many years.²² The objectives of Kubis' research project were to evaluate voice analysis as a lie detection technique and to compare the efficiency of two voice analysis instruments with the polygraph.²³ The two instruments studied in this project were the Dektor Psychological Stress Evaluator and the Voice Stress Analyzer manufactured by Decision Control Incorporated.²⁴

The use of the voice analysis techniques was evaluated in a simulated theft experiment, which examined 174 male and female university students.²⁵ One group of 135 subjects was examined with a polygraph at the same time as voice recordings were made. Another group of thirty-six subjects was tested only on the voice analysis machine. In this way, the last group was not subject to any additional stress by the attachment of the blood pressure cuff and other components of the polygraph while undergoing questioning and recording of their voices. In order to simulate a theft of a female professor's handbag, three students were used. One student was told to play the part of a thief, another to play the lookout and the third to remain in a separate room apart from the others. After the simulated theft, the students playing the part of the thief and lookout returned to the control offices separately and were kept apart so that the lookout did not know what had been stolen. The third student, who had been kept in another room, was told that there had been a theft from a faculty office and that he was going to be questioned, but since he was not involved, he had no cause to worry.²⁶

The three students were questioned separately. The experiment required the polygraph operator and the operators of the voice analysis machines to identify the thief, the lookout, and

ysis machines. The results of the analyses on both machines tested provided no evidence to support the use of voice stress analysis equipment as lie detectors.

21. Summers, *Science Can Get the Confession*, 8 *FORDHAM L. REV.* 334 (1939).

22. Kubis, *supra* note 16.

23. *Id.* at 1.

24. *Id.* at 9.

25. *Id.* at 11, 23.

26. *Id.* at 11-24.

the innocent party. The polygraph operator achieved an accuracy rate of 76% in distinguishing among the three.²⁷ Neither of the voice analysis devices, although operated by a trained examiner, was any more effective than pure chance. The operator of the Psychological Stress Evaluator achieved an average accuracy rate of 32%. When he knew which subjects had been in each group of three, he obtained an accuracy rate of 53%. The operator of the Voice Stress Analyzer produced accuracy rates of 34% for subjects who had been hooked up to the polygraph when their voices were recorded, and 43% for the other students. The rate of accuracy for determining the correct answer from three possible choices by pure chance would be 33%.²⁸

Analysis of the results from these machines provided no evidence to validate the use of voice stress analysis equipment as lie detectors. In fact, the graduate student who was recording the voice of each subject during the examinations achieved a rate of accuracy of 55% from his observation of the subjects behavior, appearance, and the nature of his vocal response.²⁹

III. Case Law Involving Voice Stress Analysis

Very few lawyers are aware of the burgeoning number of cases involving detection of deception by voice stress analysis. There have been numerous cases in the last several years involving lie detection by the use of voice stress analysis,³⁰ and others

27. *Id.* at 13-26.

28. *Id.* at 35.

29. *Id.* at 36.

30. *Barrel of Fun, Inc. v. State Farm Fire & Casualty Co.*, 739 F.2d 1028 (5th Cir. 1984); *Joubert v. Travelers Indem. Co.*, 736 F.2d 191 (5th Cir. 1984); *United States v. Johns*, 734 F.2d 657 (11th Cir. 1984); *Milano v. Garrison*, 677 F.2d 374 (4th Cir. 1981); *United States v. Traficant*, 566 F. Supp. 1046 (N.D. Ohio 1983); *Adkinson v. State*, 611 P.2d 528 (Alaska 1980); *Larsen v. Motor Supply Co.*, 117 Ariz. App. 507, 573 P.2d 907 (1977); *State v. Thompson*, 5 Conn. App. 157, 497 A.2d 423 (1985); *Florida Bar v. Brennan*, 377 So. 2d 1181 (Fla. 1979); *Mann v. State*, 154 Ga. App. 677, 269 S.E.2d 863 (1980); *People v. Lippert*, 125 Ill. App. 3d 489, 466 N.E.2d 276 (1984); *Losee v. State*, 374 N.W.2d 402 (Iowa 1985); *Neises v. Solomon State Bank*, 236 Kan. 767, 696 P.2d 372 (1985); *State v. Thompson*, 381 So. 2d 823 (La. 1980); *State v. Guillory*, 373 So. 2d 133 (La. 1979); *State v. Schouest*, 351 So. 2d 462 (La. 1977); *State v. Overton*, 337 So. 2d 1058 (La. 1976); *State v. Brumley*, 320 So. 2d 129 (La. 1975); *State v. Singleton*, 311 So. 2d 881 (La. 1975); *State v. Segura*, 464 So. 2d 1116 (La. Ct. App.), *cert. denied*, 468 So. 2d 1203 (La. 1985); *State v. Helsley*, 457 So. 2d 707 (La. Ct. App. 1984); *Langford v. Leesville*, 442 So. 2d 1375 (La. Ct. App. 1983); *Carter v. Catfish Cabin*, 316 So. 2d 517

which made reference to voice stress analysis in matters involving the admissibility of polygraph evidence.³¹

The issue of admissibility of evidence of voice stress analysis has been raised in a surprising variety of cases. One unusual case involved an attempt by a defense counsel to introduce voice stress analysis of the voice of the defendant pilot talking to a control tower to prove that he was not under stress.³² The defendant was charged with flying controlled substances into the country in violation of federal law.³³ The court rejected the offered evidence.³⁴

A. Cases Involving Licensing Statutes

Illinois had one of the earliest cases involving voice stress analysis in *Illinois Polygraph Society v. Pellicano*.³⁵ Apparently, a controversy had been waged for several years between voice analysis examiners and polygraph operators. Illinois has a Detection of Deception Examiner Act,³⁶ which provides for the licensing and regulation of lie detector examiners. Section three of

(La. Ct. App. 1975); *Langworthy v. State*, 46 Md. App. 116, 416 A.2d 1287 (1980); *Smith v. State*, 31 Md. App. 106, 355 A.2d 527 (1976); *State v. Jungbauer*, 348 N.W.2d 344 (Minn. 1984); *State v. Ochalla*, 285 N.W.2d 683 (Minn. 1979); *In re T. Y. K.*, 183 Mont. 91, 598 P.2d 593 (1979); *Simon Neustadt Family Center, Inc. v. Bludworth*, 97 N.M. 500, 641 P.2d 531 (1982); *People v. Tarsia*, 50 N.Y.2d 1, 405 N.E.2d 188, 427 N.Y.S.2d 944 (1980); *Scott v. Transkrit Corp.*, 91 A.D.2d 682, 457 N.Y.S.2d 134 (2d Dep't 1982); *State v. Milano*, 297 N.C. 485, 256 S.E.2d 154 (1979); *State v. Makerson*, 52 N.C. App. 149, 277 S.E.2d 869 (1981); *Miller v. City of York*, 52 Pa. Commw. 483, 415 A.2d 1280 (1980); *Todd v. South Carolina Farm Bureau Mut. Ins. Co.*, 287 S.C. 190, 336 S.E.2d 472 (1985); *Sabag v. Continental South Dakota*, 374 N.W.2d 349 (S.D. 1985); *Rogers v. Tennessee Farmers Mut. Ins. Co.*, 612 S.W.2d 178 (Tenn. Ct. App. 1980); *State v. Mason*, 31 Wash. App. 41, 639 P.2d 800 (1982); *In re Smith*, 30 Wash. App. 943, 639 P.2d 779 (1982).

31. *Gray v. Udevitz*, 656 F.2d 588 (10th Cir. 1981); *Caldwell v. State*, 267 Ark. 1053, 594 S.W.2d 24 (1980); *Borlin v. Civil Service Comm'n*, 338 N.W.2d 146 (Iowa 1983); *People v. Barbara*, 400 Mich. 352, 255 N.W.2d 171 (1977); *State v. Century Camera*, 309 N.W.2d 735 (Minn. 1981); *Gawel v. Two Plus Two Inc.*, 309 N.W.2d 746 (Minn. 1981); *Kamrath v. Suburban Nat'l Bank*, 363 N.W.2d 108 (Minn. Ct. App. 1985); *State v. Lafrance*, 124 N.H. 171, 471 A.2d 340 (1983); *Union Leader Corp. v. Chandler*, 119 N.H. 442, 402 A.2d 914 (1979); *State v. Anthony*, 100 N.M. 735, 676 P.2d 262 (Ct. App. 1983); *State v. Grier*, 307 N.C. 628, 300 S.E.2d 351 (1983); *State v. Meadows*, 306 N.C. 683, 295 S.E.2d 394 (1982).

32. *Johns*, 734 F.2d 657.

33. *Id.*

34. *Id.* at 660.

35. 83 Ill. 2d 130, 414 N.E.2d 458 (1980).

36. ILL. ANN. STAT. ch. 111, ¶ 2401-32 (Smith-Hurd 1978 & Supp. 1988).

this Act requires that every examiner use an instrument which records as a minimum, the subject's cardiovascular and respiratory pattern.³⁷ This had the effect of requiring every examiner to use a polygraph. The defendant in this case was engaged in the business of detecting deception using the Psychological Stress Evaluator. He was not licensed as an examiner, however.³⁸ The plaintiffs, polygraph operators who had organized into the Illinois Polygraph Society, sought to enjoin the defendant from administering examinations to detect deception. The plaintiffs invoked the provisions of the Illinois Detection of Deception Examiner Act.³⁹ The circuit court denied the defendant's motion to dismiss, but allowed him to file an interlocutory appeal. The Illinois intermediate appellate court reversed the circuit court and found that the Act was unconstitutional as special legislation because it granted polygraph operators a monopoly. The Illinois Supreme Court reversed the appellate court and concluded that the Act was constitutional.⁴⁰ The Illinois Supreme Court held that the Act was not special legislation, since there was sufficient doubt about the reliability of detection of deception instruments, and the varying expertise of those who use them, to justify the legislature's decision to set minimum standards.⁴¹

The Illinois Detection of Deception Examiner Act was passed about seven years before the voice analysis technique came on the market, and the legislature failed to take into account the possibility of future scientific developments. Apparently in this particular Act, the legislature did not intend to make any statement about the comparative reliability of the polygraph and voice stress analysis in detecting deception. Other states have been specific in banning voice analysis devices in employment situations,⁴² some have banned polygraphs and lie de-

37. *Illinois Polygraph Soc'y*, 83 Ill. 2d at 136, 414 N.E.2d at 461.

38. *Id.* at 133, 414 N.E.2d at 460. He used the Dektor Psychological Stress Evaluator and did not seek to be licensed, which would require him to undergo a training course on the polygraph.

39. *Id.*

40. *Id.*

41. *Id.* at 145, 414 N.E.2d at 466.

42. MINN. STAT. § 181.75 (1988); S.C. CODE ANN. § 40-53-40 (Law. Co-op 1976).

tectors in employment situations,⁴³ and several states have made it an offense to use a voice stress analysis machine without the consent of the subject.⁴⁴

Other states have passed legislation similar to that in Illinois, mandating the licensing of polygraph operators. In effect, these statutes prohibit the use of other devices by requiring the equipment used to record the cardiovascular and respiratory pattern of the subjects. Examiners using the Psychological Stress Evaluator brought actions attacking the constitutionality of such laws in several states.

In *Heisse v. Vermont*,⁴⁵ Dr. Heisse, a physician licensed to practice medicine in Vermont, was also a practitioner in the detection of deception by the Psychological Stress Evaluator (PSE). He applied for a license under the Vermont Polygraph Examiners Act⁴⁶ and was denied.⁴⁷ Dr. Heisse brought a civil rights action in the federal court claiming a violation of the equal protection clause of the fourteenth amendment to the Constitution. The district court held that the Vermont Act did not violate the United States Constitution.⁴⁸ The court found that the state had a valid interest in regulating professions, especially the detection of deception by physiological and psychological testing, which affects the public interest particularly as it relates to individual rights.⁴⁹ The court stated that although several studies have analyzed the reliability of the PSE as a device for detecting truth and deception and concluded that the PSE is a reliable and workable instrument, there is disagreement in the scientific community about the validity of PSE testing.⁵⁰ The

43. ALASKA STAT. § 23.10.037 (1984); CAL. LAB. CODE § 432.2 (West 1971 & Supp. 1989); CONN. GEN. STAT. ANN. § 31-51g (West 1987); DEL. CODE ANN. tit. 19, § 704 (1974 & Supp. 1988); HAW. REV. STAT. § 378-26.5 (1985); MD. ANN. CODE art. 100, § 95 (1985 & Supp. 1988); MASS. GEN. LAWS ANN. ch. 149, § 19B (West Supp. 1988); MINN. STAT. ANN. § 181.75 (West Supp. 1989); N.J. STAT. ANN. § 2C:40A-1 (West 1982 & Supp. 1988); N.Y. LAB. LAW §§ 733-39 (McKinney 1988); OR. REV. STAT. § 659.225 (1987); WASH. REV. CODE ANN. § 49.44.120 (Supp. 1988).

44. CAL. PENAL CODE § 637.3 (West 1988); MASS. GEN. LAWS ANN. ch. 149, § 19B (West Supp. 1988).

45. 519 F. Supp. 36 (D. Vt. 1980).

46. VT. STAT. ANN. tit. 26, §§ 2901-10 (Supp. 1988).

47. *Heisse*, 519 F. Supp. at 39.

48. *Id.* at 49.

49. *Id.* at 48.

50. *Id.* at 41.

use of the polygraph is advantageous because an individual cannot be subjected to a truth or deception test without his knowledge. Testimony by witnesses in *Heisse* indicated that a PSE test had been conducted without the knowledge of the subject.⁵¹ The court concluded that the state legislature had not acted to create an unreasonable and arbitrary classification.⁵² The state had a rational basis in limiting licensing to polygraph operators, in view of the fact that the polygraph has wider acceptance within the scientific community and a longer history of use than does the PSE.

Dr. Heisse did not give up however, and brought an action in a Vermont state court⁵³ contending that the Vermont "Sunset Act" automatically repealed the Polygraph Examiners Act effective July 1, 1981.⁵⁴ After losing in the trial court, Dr. Heisse won in the Vermont Supreme Court.⁵⁵ The court held that the Polygraph Examiners Act expired July 1, 1981 under the provisions of the Sunset Act, leaving Dr. Heisse free to practice detection of deception with the PSE under Vermont law.⁵⁶

A criminal prosecution was brought in Texas under the licensing and recording provisions of the Texas Polygraph Examiners Act.⁵⁷ The defendant was convicted in the trial court and appealed, contending that the Act was unconstitutional.⁵⁸ The state court of Criminal Appeals held that the Act was constitutional in that it was rationally related to a legitimate state interest,⁵⁹ but it reversed the conviction of the defendant because the evidence was insufficient to prove that he had used the PSE as

51. *Id.* at 50.

52. *Id.* at 46.

53. *Heisse v. State*, 143 Vt. 87, 460 A.2d 444 (1983).

54. VT. STAT. ANN. tit. 26, §§ 3101-07 (Supp. 1988). The Vermont "Sunset Act" states as its policy and purpose that

regulation be imposed upon a profession or occupation solely for the purpose of protecting the public. The legislature believes that all individuals should be permitted to enter into a profession or occupation unless there is a demonstrated need for the state to protect the interests of the public by restricting entry into the profession or occupation.

Id. § 3101.

55. *Heisse*, 143 Vt. 87, 460 A.2d 444.

56. *Id.* at 88, 460 A.2d at 445.

57. *Clark v. State*, 665 S.W.2d 476 (Tex. Crim. 1984).

58. *Id.* at 479.

59. *Id.* at 481.

an instrument for detecting deception without a license.⁶⁰

B. *Statutes Prohibiting Voice Stress Analysis in Employment*

There have been numerous cases involving statutes restricting the use of the PSE in employment situations. In a New York state case, *Northdurft v. Ross*,⁶¹ the plaintiff brought an action against Ross, the state Industrial Commissioner, to declare Article 20-B of the Labor Law⁶² to be unconstitutional and to restrain the defendant from enforcing it. The plaintiff, a PSE examiner, claimed an unconstitutional adverse effect upon the practice of his occupation.⁶³ The court rejected his contention, holding that the Act was constitutional and intended to safeguard individuals in employment situations against the invasion of their privacy by PSE examinations.⁶⁴

Another New York case, which strikingly illustrated the lack of knowledge of employees, lawyers, and even the trial court regarding the PSE was *Scott v. Transkrit Corp.*⁶⁵ Scott and other former employees brought an action to recover damages under Article 20-B of the Labor Law,⁶⁶ charging that the defendant, their former employer, had unlawfully administered a PSE examination to them in violation of the state law.⁶⁷ The defendant proved that the tests administered to its employees were polygraph tests based upon blood pressure, pulse, galvanic skin response, and breathing pattern which were not prohibited by the Labor Law.⁶⁸ The New York Supreme Court, Special Term, denied the defendant's motion for summary judgment and he appealed to the Supreme Court, Appellate Division.⁶⁹ The appellate court reversed, finding that there remained no triable issue of fact and holding that the defendant's motion for summary judgment should have been granted and the complaint

60. *Id.* at 484.

61. 85 A.D.2d 658, 445 N.Y.S.2d 222 (2d Dep't 1981).

62. N.Y. LAB. LAW § 733 (McKinney 1988).

63. *Northdurft*, 85 A.D.2d at 658, 445 N.Y.S.2d at 222.

64. *Id.*

65. 91 A.D.2d 682, 457 N.Y.S.2d 134 (2d Dep't 1982).

66. N.Y. LAB. LAW § 733.

67. *Scott*, 91 A.D.2d at 682, 457 N.Y.S.2d at 135.

68. *Id.* at 683, 457 N.Y.S.2d at 135-36.

69. *Id.* at 682, 457 N.Y.S.2d at 135.

dismissed.⁷⁰ Apparently, the plaintiffs, their attorney, and the trial term were completely unaware of the difference between the PSE and the polygraph and were also confused by the wording of the Labor Law.

C. *PSE in Employment in States Without Applicable Statutes*

Most states do not have statutes such as New York's, prohibiting the use of the PSE in employment situations. Some of these states however, have had cases involving firing after PSE examinations or refusal to take a PSE test.⁷¹ The appellate courts in Arizona, Washington, and Pennsylvania upheld the dismissals from employment under the traditional rule of dismissal from "at will" employment. The South Carolina Supreme Court, on the other hand, upheld a trial court ruling which denied the defendant employer's motion to dismiss for failure to state a cause of action for wrongful discharge in connection with the administration of a PSE test. In this case, the court granted a motion by the plaintiff for the production of the records of the investigation and the records of the PSE test.⁷² The Louisiana appellate court held that admissions made by the plaintiffs during a PSE test were insufficient grounds for dismissal of public employees.

D. *Cases Involving Admissibility of Voice Stress Analysis After Verdict*

The issue of admissibility of evidence of voice stress analysis has been raised on appeal in some cases in which it was not raised before the verdict was delivered.⁷³ A defense request for

70. *Id.* at 683, 457 N.Y.S.2d at 136.

71. *Larsen v. Motor Supply Co.*, 117 Ariz. 507, 573 P.2d 906 (1977); *Wells v. Dep't of Corrections*, 439 So. 2d 470 (La. Ct. App.), *cert. denied*, 443 So. 2d 583 (La. 1983); *Miller v. City of York*, 52 Pa. Commw. 483, 415 A.2d 1280 (Pa. 1980); *Todd v. South Carolina Bureau Mut. Ins. Co.*, 278 S.E.2d 607 (S.C. 1981); *In re Smith*, 30 Wash. App. 943, 639 P.2d 779 (1982).

72. *Todd*, 278 S.E.2d at 612.

73. *People ex rel. Snead v. Kirkland*, 462 F. Supp. 914 (E.D. Pa. 1978); *Government of the Virgin Islands v. Joshua*, No. 80/94 (D.V.I. Oct. 28, 1980) (LEXIS, Genfed library, Dist file), *aff'd*, 676 F.2d 685 (3d Cir. 1982); *Adkinson v. State*, 611 P.2d 528 (Alaska), *cert. denied*, 449 U.S. 876 (1980); *State v. Brown*, 497 So. 2d 29 (La. Ct. App. 1986);

admission of PSE tests made after a conviction, in a motion for a new trial, was denied in *Adkinson v. State*⁷⁴ and in the *Government of the Virgin Islands v. Joshua*.⁷⁵ In *Louisiana v. Helsley*,⁷⁶ the Court of Appeal of Louisiana held that it was permissible for the sentencing judge to use a presentencing report which revealed that the defendant had submitted to polygraph and PSE tests indicating that he had, in fact, murdered a missing juvenile.⁷⁷ The Louisiana Court of Appeal in *State v. Brown*⁷⁸ upheld the discretion of the trial judge in allowing the introduction of testimony by an expert witness that Brown had taken and passed a voice stress analysis test.⁷⁹ In spite of the stated opinion of the expert that Brown had not lied when he denied the robbery, the appellate court upheld the trial judge's denial of a motion for a new trial.⁸⁰ In *Owens v. Kelley*,⁸¹ the Court of Appeals for the Eleventh Circuit upheld a Georgia trial judge's order that the defendant submit to PSE tests as a condition of probation. *People ex rel. Snead v. Kirkland*,⁸² decided in the Eastern District of Pennsylvania, involved a fantastic motion by a prisoner, convicted of four bank robberies, to have FBI agents, a United States attorney, defense attorneys, judges, and others submit to PSE tests to show that they had conspired to convict him falsely.⁸³ Needless to say, this motion was denied.⁸⁴

Another unusual case involved disciplinary action against an attorney who had secretly recorded his client's statements in a criminal case and then examined them on a PSE.⁸⁵ The lawyer had made an oral plea bargain with the prosecutor on behalf of his client according to which the client would admit to the use of

State v. Helsley, 457 So. 2d 707 (La. Ct. App. 1984).

74. 611 P.2d 528 (Alaska), cert. denied, 449 U.S. 876 (1980).

75. No. 80/94 (D.V.I. Oct. 28, 1980) (LEXIS, Genfed library, Dist file), aff'd, 676 F.2d 685 (3d Cir. 1982).

76. 457 So. 2d 707 (La. Ct. App. 1984).

77. *Id.* at 720.

78. 497 So. 2d 29 (La. Ct. App. 1986).

79. *Id.* at 31.

80. *Id.*

81. 681 F.2d 1362 (1982), reh'g denied, 697 F.2d 1094 (11th Cir. 1983).

82. 462 F. Supp. 914 (E.D. Pa. 1978).

83. *Id.* at 916-17.

84. *Id.* at 923.

85. Florida Bar v. Brennan, 377 So. 2d 1181 (Fla. 1979).

a firearm.⁸⁶ Following the PSE test, the attorney wrote to the sentencing judge that his client had shown stress on questions relating to the use of a firearm and that he did not believe that his client was being candid with him.⁸⁷ The respondent attorney pleaded guilty to a violation of the Code of Professional Responsibility and was reprimanded.⁸⁸

The Supreme Court of Louisiana had at least nine appeals from convictions in the criminal courts, six of them based upon claims of involuntary confessions or admissions during or after PSE tests.⁸⁹ In all but one of the six cases, the court held that the confessions were voluntary and admissible and that the defendants had freely consented to take the PSE test. In *State v. Thompson*, however, the court held that pretest statements are an integral part of the PSE test.⁹⁰ Since the defendant had stated that the test information was not to be released to any outside agency without his permission, the defense argued that the trial court should have suppressed the pretest admission upon the objection of defense counsel.⁹¹ In none of these cases were the results or the wording of the PSE test admitted into evidence in the trial court.⁹² The Louisiana Supreme Court stated in *Thompson* that the result of PSE tests are not admissible at trial.⁹³ This pronouncement was on the authority of *State v. Catanese*, which dealt only with a polygraph.⁹⁴ The court, in a footnote, solved this discrepancy by concluding that the PSE test was, if anything, less reliable than the polygraph.⁹⁵

In *State v. Segura*,⁹⁶ the appeals court affirmed the decision

86. *Id.*

87. *Id.* at 1182.

88. *Id.* at 1181.

89. *State v. Naas*, 409 So. 2d 535 (La. 1981), *cert. denied*, 457 U.S. 1119 (1982); *State v. Thompson*, 381 So. 2d 823 (La. 1980); *State v. Guillory*, 373 So. 2d 133 (La. 1979); *State v. Overton*, 337 So. 2d 1058 (La. 1976); *State v. Brumley*, 320 So. 2d 129 (La. 1975); *State v. Singleton*, 311 So. 2d 881 (La. 1975); *State v. Helsley*, 457 So. 2d 707 (La. Ct. App. 1984); *State v. Segura*, 464 So. 2d 1116 (La. Ct. App. 1983), *cert. denied*, 468 So. 2d 1203 (La. 1985).

90. *Thompson*, 381 So. 2d at 824.

91. *Id.* at 823.

92. *See cases cited supra* note 89.

93. *Thompson*, 381 So. 2d at 824.

94. *State v. Catanese*, 368 So. 2d 975 (La. Ct. App. 1979).

95. *Id.* at 980 n.14.

96. 464 So. 2d 1116, 1116 (La. Ct. App. 1983), *cert. denied*, 468 So. 2d 1203 (La.

of the trial judge in rejecting the admission at trial of results of a PSE test upon the defendant. In *State v. Helsley*,⁹⁷ the court upheld the admission of polygraph and PSE test results, among other evidence used in determining the imposition of maximum sentences after conviction.

Most of the cases on the admissibility of PSE and Voice Stress Analyzer (VSA) tests involve appeals from denials of admissibility in the trial courts. There are about a half-dozen cases, however, where the trial court admitted the results of a voice stress test. In most of these cases the appeals courts reversed. Appellate courts have sustained the trial courts' use of the PSE test in sentencing in *State v. Helsley*⁹⁸ and as a requirement of probation in *Owens v. Kelley*.⁹⁹ In addition, the Supreme Court of Montana upheld the trial court's admission of the results of polygraph and PSE tests upon stipulation in *In re T.Y.K.*¹⁰⁰ In contrast, in *Neises v. Solomon State Bank*,¹⁰¹ the Supreme Court of Kansas ruled that the admission of PSE tests to show that the insured burned his own home was reversible error.¹⁰² Varying the usual theme, the Supreme Court of New Mexico upheld the trial court's denial of admissibility of the results of a PSE test because the examiner was not qualified. In its decision in *Simon Neustadt Family Center v. Bludworth*,¹⁰³ however, this court stated that New Mexico would admit expert testimony from a qualified PSE examiner, just as the courts of New Mexico would admit testimony from a qualified polygraph examiner. New Mexico is the only state in which an appellate court has clearly stated that it would admit polygraph testimony.¹⁰⁴

The Court of Appeals of New York upheld a conviction in *People v. Tarsia*¹⁰⁵ based upon a confession after a PSE test. Although this case is universally cited as opposing the introduc-

1985).

97. 457 So. 2d 707, 722 (La. Ct. App. 1984).

98. *Id.* at 707.

99. 681 F.2d 1362 (1982), *reh'g denied*, 697 F.2d 1094 (11th Cir. 1983).

100. 183 Mont. 91, 598 P.2d 593 (1979).

101. 236 Kan. 767, 696 P.2d 372 (1985).

102. *Id.* at 381.

103. 97 N.M. 500, 641 P.2d 531 (1982).

104. *State v. Dorsey*, 88 N.M. 184, 539 P.2d 204 (1975).

105. 50 N.Y.2d 1, 405 N.E.2d 188, 427 N.Y.S.2d 944 (1980).

tion of evidence from a PSE test, the trial court had actually admitted testimony from the PSE examiner regarding the questions and answers as well as the examiner's testimony that the test showed stress on the part of the defendant.¹⁰⁶

There are two unique cases in the federal courts on the issue of admissibility of voice stress analysis. In *Milano v. Garrison*,¹⁰⁷ the Court of Appeals for the Fourth Circuit held that Milano had received a fair trial in the North Carolina courts and had not been deprived of his constitutional rights.¹⁰⁸ The state court had denied admission of the results of a PSE test, but had approved admission of a polygraph test because both parties had stipulated that the polygraph test could be admitted into evidence.¹⁰⁹ The interesting part about this decision is that the district court had ruled that Milano was deprived of a fair trial when the PSE test results were barred from admission.¹¹⁰

In the civil case of *Barrel of Fun, Inc. v. State Farm Fire & Casualty Co.*,¹¹¹ the Court of Appeals for the Fifth Circuit vacated the decision of the district court judge and remanded to allow the court to reconsider its decision without reliance upon testimony as to the results of a PSE test which had been admitted at the trial. The plaintiff had filed a claim for fire damage which was rejected by the insurance company because the fire was deliberately set and the insurer believed that the insured was involved in the arson.¹¹² In a nonjury trial, the judge had allowed an arson expert to testify as to the deliberate setting of the fire and also as to his opinion from observing a PSE test that the owner of the plaintiff corporation had knowledge of the arson of the building.¹¹³ The PSE examiner had been barred by the trial judge from testifying as to the test results, and the appeals court upheld this ruling.¹¹⁴

106. *Id.* at 8, 405 N.E.2d at 191, 427 N.Y.S.2d at 946.

107. 677 F.2d 374 (4th Cir. 1981).

108. *Id.* at 375.

109. *Id.*

110. *Id.*

111. 739 F.2d 1028 (5th Cir. 1983).

112. *Id.* at 1029.

113. *Id.* at 1031.

114. *Id.* at 1033.

The court in this case reviewed the law and history of the PSE and stated that the overwhelming majority of those courts which have considered the issue have held that PSE evidence is inadmissible.¹¹⁵ The court acknowledged that there was considerable controversy over the continued advisability of the rule against admission of polygraph evidence.¹¹⁶ However, the appeals court stated that the objections to admissibility of expert testimony as to the results of a PSE test do not vanish with a bench trial.¹¹⁷ The court held that the precedents ruling polygraph evidence inadmissible also preclude the admission of PSE results.¹¹⁸ The court also noted that the question is unresolved whether the revision of the Federal Rules of Evidence silently abolished or adopted the *Frye* test.¹¹⁹ It observed that the principal purpose for adoption of Federal Rule of Evidence 703 was to permit an expert witness to express an opinion based in part or solely upon hearsay sources.¹²⁰ The court stated that its holding was in no way predicated upon any hearsay objection to the expert's testimony but, rather, was predicated on the reliability of the opinion. The decision also made clear that the court did not mean to suggest that an expert's opinion would necessarily become inadmissible under Rule 703 merely because the expert gave some consideration to a PSE test. Here, however, the expert's opinion was stated to be based essentially upon the plaintiff's PSE test results.

The court also quoted with approval the opinion of Maryland's highest court in *Smith v. State*: "The difference, if any, between the psychological stress evaluation test and a lie detector test is too minor and shadowy to justify a departure from our prior decisions. A lie detector test by any other name is still a lie

115. *Id.*

116. *Id.*

117. *Id.* at 1029.

118. *Id.* at 1034.

119. *Id.* at 1033.

120. FED. R. EVID. 703 provides:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to him at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible evidence.

Id.

detector test."¹²¹

There must be some profound legal truth in the last sentence of this quotation — "A lie detector test by any other name is still a lie detector test" — since it was also cited with approval by the New York Court of Appeals in *People v. Tarsia*.¹²² Although this statement is obviously more truth than poetry, it does bear some resemblance to Gertrude Stein's famous line of poetry, "[a] rose is a rose, is a rose, is a rose."¹²³

In *Tarsia*, a jury found the defendant guilty of attempted murder of his estranged wife. A recording of the answers the defendant had given during an examination on a voice stress analyzer was admitted at the trial. The judgment was affirmed by the Supreme Court, Appellate Division,¹²⁴ and the defendant appealed to the Court of Appeals, the highest court in New York State. On appeal, the court concluded that it was not error to admit testimony concerning the defendant's submission to a voice stress evaluation test or to admit a tape recording of the questions and answers asked during the test.¹²⁵

The defendant in *Tarsia* had been questioned as a suspect in the shooting of his wife after having been read and having waived his *Miranda* rights.¹²⁶ An appointment was made for him to submit to a voice stress analysis test at the local police station, and he arrived at the appointed time.¹²⁷ He was again advised of his rights and again waived them, this time in writing.¹²⁸ He was familiarized with both the procedure of the tests and the questions to be asked.¹²⁹ His answers were recorded and fed through the voice stress analyzer.¹³⁰ The results raised the examiner's suspicions, and the defendant was questioned further.¹³¹

121. 31 Md. App. 106, 120, 355 A.2d 527, 536 (1976).

122. 50 N.Y.2d 1, 405 N.E.2d 188, 427 N.Y.S.2d 944 (1980).

123. Stein, *Sacred Emily*, in *GEOGRAPHY AND PLAYS* 187 (2d ed. 1967).

124. *People v. Tarsia*, 67 A.D.2d 210, 415 N.Y.S.2d 120 (3d Dep't 1979), *aff'd*, 50 N.Y.2d 1, 405 N.E.2d 188, 427 N.Y.S.2d 944 (1980).

125. *Tarsia*, 50 N.Y.2d at 1, 405 N.E.2d at 188, 427 N.Y.S.2d at 944.

126. *Id.* at 5, 405 N.E.2d at 189, 427 N.Y.S.2d at 945.

127. *Id.*

128. *Id.*

129. *Id.*

130. *Id.* at 6, 405 N.E.2d at 190, 427 N.Y.S.2d at 945.

131. *Id.*

Subsequently he admitted to shooting his wife.¹³² During the session, which lasted nearly eleven hours, he made one oral and two written confessions.¹³³

Tarsia's counsel contended upon appeal, as he had unsuccessfully at pretrial suppression hearings, that the techniques employed by the examiner in the voice stress test overbore the defendant's will to such a degree that his confession must be deemed involuntary, and thus inadmissible.¹³⁴ Additionally, he argued that the circumstances of the eleven hours of detention during the interrogation and test-taking vitiated the confessions.¹³⁵ He also alleged as error the introduction of the test as well as the replaying of the tape-recorded questions and answers.¹³⁶

The New York Court of Appeals rejected all of these contentions.¹³⁷ With regard to the contention that the examiner should not have been allowed to describe the administration of the voice stress test — a description which necessarily included a recitation of the questions asked, answers given, and his subsequent questioning of the defendant — the court concluded that the examiner did not communicate his evaluation of the recording to the jury.¹³⁸ The court, however, quoted the examiner as saying that, after he had administered the test and read the chart, he "saw stress indicated on the chart in regard to [Tarsia] shooting his wife."¹³⁹ The court found no error in the admissibility of this testimony, which seems clearly to be a statement about the result of the voice analysis test, because the counsel to the defendant had failed to object to this specific statement.¹⁴⁰ The court interpreted this failure to object as part of the defense strategy to prove coercion.¹⁴¹ The court reached this decision despite the fact that the defense had objected to the admissibility of the confessions and to the description of the voice stress anal-

132. *Id.*

133. *Id.*

134. *Id.*

135. *Id.*

136. *Id.*

137. *Id.*

138. *Id.* at 8, 405 N.E.2d at 191, 427 N.Y.S.2d at 947.

139. *Id.*

140. *Id.*

141. *Id.*

ysis test by the examiner at both the preliminary hearings and at the trial.¹⁴²

This result is even more remarkable because the New York Court of Appeals is one of the few courts which has rejected confessions made after, but separate from, a polygraph test.¹⁴³ The New York court is the only one which has held that a confession made after a polygraph test is inadmissible — for example, because the polygraph examiner had stated to the defendant that the machine could tell if the defendant was lying, and that it knew the truth “just like [you] and God.”¹⁴⁴ Similarly, in *People v. Zimmer*, the New York court held that a confession made after a polygraph test was inadmissible because the examiner had shown literature to the defendant which stated that the results of the test could be used against her in court.¹⁴⁵

Practically all the courts in the nation that have ruled on the question have rejected the contention that an accused's confession was rendered involuntary, and thus inadmissible, by reason of the coercive effect of a polygraph examination itself.¹⁴⁶ The same Washington, D.C. court of appeals which issued the *Frye* decision affirmed the admission of the testimony of a polygraph examiner in the case of *Tyler v. United States*.¹⁴⁷ There

142. *Id.*

143. *People v. Leonard*, 59 A.D.2d 1, 397 N.Y.S.2d 386 (2d Dep't 1977); *People v. Zimmer*, 68 Misc. 2d 1067, 329 N.Y.S.2d 17 (Sup. Ct. App. T. 4th Dep't), *aff'd*, 50 A.D.2d 955, 339 N.Y.S.2d 671 (4th Dep't 1972).

144. *Leonard*, 59 A.D.2d at 15, 397 N.Y.S.2d at 391.

145. *Zimmer*, 68 Misc. 2d at 1073, 329 N.Y.S.2d at 24.

146. *Thompson v. Cox*, 352 F.2d 488 (10th Cir. 1965); *United States v. McDevitt*, 328 F.2d 282 (6th Cir. 1964); *Weston v. Henderson*, 279 F. Supp. 862 (E.D. Tenn. 1967), *vacated on other grounds*, 415 F.2d 343 (6th Cir. 1969); *People v. Beagle*, 6 Cal. 3d 441, 99 Cal. Rptr. 313, 492 P.2d 1 (1970); *People v. Carter*, 7 Cal. App. 3d 332, 88 Cal. Rptr. 546 (1970); *Sotelo v. State*, 264 Ind. 298, 342 N.E.2d 844 (1976); *Montes v. State*, 263 Ind. 390, 332 N.E.2d 786 (1975); *Lee v. State*, 338 So. 2d 395 (Miss. 1976); *Pinter v. State*, 203 Miss. 344, 34 So. 2d 723 (1948); *State v. Keiper*, 8 Or. App. 354, 493 P.2d 750 (1972); *State v. Cannon*, 260 S.C. 537, 197 S.E.2d 678, *cert. denied*, 414 U.S. 1067 (1973); *State ex rel. Weston v. Henderson*, 220 Tenn. 1, 413 S.W.2d 674 (1967); *Fernandez v. State*, 172 Tex. Crim. 68, 353 S.W.2d 434 (1962); *Collins v. State*, 171 Tex. Crim. 585, 352 S.W.2d 841 (1961), *cert. denied*, 369 U.S. 881 (1962); *Webb v. State*, 163 Tex. Crim. 392, 291 S.W.2d 331 (1956); *Henson v. State*, 159 Tex. Crim. 647, 266 S.W.2d 864 (1953); *Gasway v. State*, 157 Tex. Crim. 647, 248 S.W.2d 942, *cert. denied*, 344 U.S. 874 (1952); *Hulen v. State*, 157 Tex. Crim. 507, 250 S.W.2d 211 (1952); *McAdoo v. State*, 65 Wisc. 2d 596, 233 N.W.2d 520 (1975).

147. 193 F.2d 24 (D.C. Cir. 1951), *cert. denied*, 343 U.S. 908 (1952).

the purpose for admitting the testimony was to show the voluntariness of the confession.¹⁴⁸ The polygraph examiner was allowed to testify as to the circumstances of the test as well as the questions asked and the responses given by the defendant.¹⁴⁹

The New York court distinguished *Tarsia* from *Leonard* and *Zimmer* by explaining that in *Tarsia* the defendant was informed that the test could not determine that he was lying and, in addition, there was no statement that the test results could be admissible in a trial. This latter distinction is difficult to understand because the trial court in *Tarsia* did admit a statement as to the results of the voice analysis test. The words used by the examiner in *Tarsia* seem to be contrary to the spirit, if not the letter, of the repeated *Miranda* warnings to the effect that anything the defendant said would be taken down and could be used in evidence against him.¹⁵⁰ If anything, the lack of warning by the examiner seemed to lull the defendant into a false sense of security; in other words, in order to obtain the defendant's consent to take the voice stress test, the examiner arguably used deceptive means if not actually misleading statements. In spite of this, the court found no error in the admission of testimony by the examiner that he told the defendant, after the test, that he saw stress indicated on the chart in regard to *Tarsia* shooting his wife.¹⁵¹

It is hard to understand why the New York Court of Appeals stated that the confessions in *Zimmer* and *Leonard* were rejected because the polygraph operators in these cases implied that the results of these tests could be admissible in a trial, while the voice stress examiner in *Tarsia* did not say that the results could be admitted. The results of lie detector tests have been admitted in New York trial courts as far back as 1938, when *People v. Kenny*¹⁵² was decided. That case resulted in an acquittal, which meant that there was no opportunity for an appellate court to review the admissibility of the evidence.¹⁵³ It

148. *Id.* at 31.

149. *Id.* at 26.

150. *People v. Tarsia*, 50 N.Y.2d 1, 13, 405 N.E.2d 188, 194, 427 N.Y.S.2d 944, 949-50 (1980).

151. *Id.*

152. 167 Misc. 51, 3 N.Y.S.2d 348 (Sup. Ct. Queens County 1938).

153. *Id.*

was not until *People v. Leone*¹⁵⁴ in 1969 that the highest court in New York reached a definitive decision denying the admissibility of results of a polygraph test. The court quoted the rule of the *Frye* case as though it were a precedent established by judicial notice that evidence by a polygraph examiner must be barred.¹⁵⁵

The results of polygraph tests and admissions made during the test were admitted into evidence in a paternity case in the New York Family Court in 1972,¹⁵⁶ in a New York City Civil Court case in 1972,¹⁵⁷ and in a New York Supreme Court case in 1979.¹⁵⁸ Evidence of the results of polygraph examinations has also been admitted in hearings on motions to dismiss an indictment.¹⁵⁹ Federal trial courts have admitted polygraph evidence in various cases,¹⁶⁰ as have courts in other states.¹⁶¹ Since polygraph evidence has been admitted upon trial in New York, it is hard to see how a statement to that effect can be coercive or render a confession inadmissible, especially in view of the required *Miranda* warnings.

The New York court in *Tarsia* was correct in holding that the voice stress analysis test had been used simply as an investigatory tool and the defendant's subsequent confession was not rendered inadmissible as involuntary.¹⁶² The defendant's statements were not rendered involuntary as a matter of law merely because they followed the voice stress analysis test. The statements of the police to the defendant might have been deceptive,

154. 25 N.Y.2d 511, 517, 255 N.E.2d 696, 700, 307 N.Y.S.2d 430, 434-35 (1969).

155. *Id.* at 517, 255 N.E.2d at 700, 307 N.Y.S.2d at 434.

156. *Matter of Stenzel v. B.*, 71 Misc. 2d 719, 336 N.Y.S.2d 836 (Sup. Ct. Niagara County 1972).

157. *Walther v. O'Connell*, 72 Misc. 2d 316, 339 N.Y.S.2d 386 (N.Y.C. Civ. Ct. N.Y. County 1972).

158. *People v. Daniels*, 102 Misc. 2d 540, 422 N.Y.S.2d 832 (Sup. Ct. Westchester County 1979).

159. *People v. Vernon*, 89 Misc. 2d 472, 391 N.Y.S.2d 959 (Sup. Ct. N.Y. County 1977).

160. *United States v. Zeiger*, 350 F. Supp. 685 (D.D.C. 1972), *rev'd without opinion*, 475 F.2d 1280 (D.C. Cir. 1972); *United States v. Ridling*, 350 F. Supp. 90 (E.D. Mich. 1972); *United States v. Hart*, 344 F. Supp. 522 (E.D.N.Y. 1971); *United States v. Dioguardi*, 350 F. Supp. 1177 (E.D.N.Y. 1972).

161. *People v. Cutter*, 12 Crim. L. Rep. 2133 (Super. Ct. Cal. 1972).

162. *People v. Tarsia*, 50 N.Y.2d 1, 8, 405 N.E.2d 188, 191, 427 N.Y.S.2d 944, 947 (1980).

but unless the deception was so fundamentally unfair as to deny due process or the deceptive statements involved threats or promises, they did not render the confession involuntary.¹⁶³

The court apparently was not aware, however, of the case of *People v. Dowling*,¹⁶⁴ where a confession obtained under examination with voice analysis equipment was contradicted by a polygraph examination and apparently disproved by other physical evidence. The case involved a fire in a store in Queens, New York, which caused the death of a captain in the fire department and injuries to other firemen. The fire marshals questioned Dowling, who worked for a private fire alarm company, and who had been in the store answering a false alarm. He agreed to submit to examination on the voice stress equipment and, after some time, the fire marshals recorded answers on tape that allegedly amounted to a confession. He was arrested by the fire marshals and charged with homicide and arson. Later, Dowling submitted to polygraph examinations by a police department polygraph examiner who found no indication of falsehood when Dowling denied setting the fire. Subsequent laboratory examinations of physical evidence from the fire scene showed no evidence of the use of kerosene or other accelerant material that Dowling had allegedly confessed to using. The grand jury refused to indict, and the charges were dismissed in spite of the alleged confession.

IV. The PSE and the Standard of "General Acceptance"

Most of the courts which have considered the admissibility of voice analysis have rejected it, comparing it to the results of polygraph tests and then stating that the results of a polygraph test are not admissible. The *Frye* case,¹⁶⁵ however, which is universally cited by appellate courts as the precedent for barring lie detector evidence, did not impose a perpetual ban upon this type of evidence. In fact, in its opinion, the court clearly stated that "somewhere in this twilight zone, the evidential force of the principle must be recognized."¹⁶⁶

163. *Id.*

164. No. 531659 Crim. (Queens County 1975).

165. *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).

166. *Id.* at 1014.

The appellate courts, however, which for over sixty years have parroted the language of *Frye* by stating that the principle has not "gained general acceptance in the particular field in which it belongs,"¹⁶⁷ have gone far beyond the precedent of the *Frye* case to bar admission of such evidence. The standard of "general acceptance," according to *McCormick on Evidence*,¹⁶⁸ is the standard for taking judicial notice, not for the admissibility of expert testimony. McCormick states that any relevant conclusions which are supported by a qualified expert should be received unless there are other reasons for exclusion, such as prejudicing or misleading the jury, and that the general rule for admissibility in most jurisdictions is that the expert be qualified and that the testimony be helpful to the trier of fact.¹⁶⁹ McCormick also wrote: "If the courts used this approach, instead of repeating a supposed requirement of 'general acceptance' not elsewhere imposed, they would arrive at a practical way of utilizing the results of scientific advances."¹⁷⁰

Rule 702 of the Federal Rules of Evidence regarding "Testimony by Experts" states: "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education, may testify thereto in the form of an opinion or otherwise."¹⁷¹ On the question raised by the Court of Appeals for the Fifth Circuit, "whether the Federal Rules of Evidence silently abolished or adopted the *Frye* test,"¹⁷² Weinstein and Berger state: "Rule 702's failure to incorporate a general scientific acceptance standard, and the Advisory Committee Note's failure to even mention the *Frye* case must be considered significant. The silence of its rule and its drafters should be regarded as tantamount to an abandonment of the general acceptance standard."¹⁷³

167. *Id.*

168. C. McCORMICK, *McCORMICK ON EVIDENCE* § 203 (E. Cleary 2d ed. 1972); 9 J. WIGMORE, *WIGMORE ON EVIDENCE* § 2567 (3d ed. 1940).

169. C. McCORMICK, *supra* note 168, § 203.

170. *Id.*

171. FED. R. EVID. 702.

172. *United States v. Valdez*, 722 F.2d 1196, 1201 (5th Cir. 1984).

173. 3 WEINSTEIN & BERGER, *WEINSTEIN'S EVIDENCE* § 702(03) (1988).

The Supreme Judicial Court of Maine in applying the state rule of evidence¹⁷⁴ identical to Federal Rule 702¹⁷⁵ held that the requirement of general scientific acceptance was not adopted in the new Maine Rules of Evidence.¹⁷⁶ The Supreme Court of Iowa, in *State v. Hall*,¹⁷⁷ rejected the standard of general scientific acceptance as a separate prerequisite for the admission of scientific evidence as inconsistent with the modern concepts of evidence embodied in the Federal Rules of Evidence.

Some of the United States circuit courts of appeals have interpreted the enactment of Rule 702 as the rejection of the *Frye* standard of general acceptance. The Second Circuit in *United States v. Williams*¹⁷⁸ found that the general acceptance test of *Frye* did not survive enactment of the Federal Rules of Evidence. The Fourth Circuit in *United States v. Baller*,¹⁷⁹ on the admission of novel scientific evidence stated:

Unless an exaggerated popular opinion of the accuracy of a particular technique makes its use prejudicial or likely to mislead the jury, it is better to admit relevant scientific evidence in the same manner as other expert testimony and allow its weight to be attacked by cross-examination and refutation.¹⁸⁰

The Eighth Circuit Court of Appeals in *United States v. Oliver*,¹⁸¹ upheld the conviction of a defendant, based in part upon the evidence given by a polygraph examiner, where the defendant had agreed in advance that the results of the test could be offered by the government if they were adverse to the defendant. The trial judge in that case admitted the evidence, decided that the polygraph examiner was qualified as an expert, and allowed him to testify to indications of deception in the defendant's answers to critical questions.¹⁸² The appellate court cited Rule 401 of the Federal Rules of Evidence defining "Relevant Evidence" as the grounds for the admission of the polygraph ex-

174. ME. R. EVID. 702.

175. FED. R. EVID. 702.

176. *State v. Williams*, 388 A.2d 500 (Me. 1978).

177. *State v. Hall*, 297 N.W.2d 80 (Iowa 1980).

178. 583 F.2d 1194 (2d Cir. 1978), *cert. denied*, 439 U.S. 117 (1979).

179. 519 F.2d 463 (4th Cir.), *cert. denied*, 423 U.S. 1019 (1975).

180. *Id.* at 466.

181. 525 F.2d 731 (8th Cir. 1975), *cert. denied*, 424 U.S. 973 (1976).

182. *Id.* at 734.

pert's testimony.¹⁸³

The Sixth Circuit, in *Poole v. Perini*,¹⁸⁴ cited the *Oliver* case with approval¹⁸⁵ and, on a similar issue of admissibility of polygraph evidence upon stipulation, held that such evidence was admissible in the Ohio state court and was not violative of the defendant's rights.¹⁸⁶

In *McMorris v. Israel*,¹⁸⁷ a state prisoner in Wisconsin filed a petition for federal habeas corpus. The district court judge denied the petition and the prisoner appealed. The Court of Appeals for the Seventh Circuit held that the refusal of the state prosecutor to enter into a stipulation with the defendant with respect to the admission of exculpatory polygraph evidence may have violated the defendant's due process rights.¹⁸⁸ Therefore, the court of appeals reversed and remanded to the district court with instructions that the writ should be granted if the refusal to enter into the stipulation offered by the defendant was unjustified.¹⁸⁹ In essence, the court found the prosecutor's veto of the test to be constitutionally impermissible because he stated no reasons for refusing to stipulate.¹⁹⁰ This seems to be an extreme extension of federal power over the state court, particularly as it relates to the admission of polygraphic evidence, coming from a federal court of appeals, which has routinely denied admission of expert testimony on polygraph evidence with no more reasoning than that it had not been generally accepted.

Federal courts have recognized that "the trial judge has broad discretion in the matter of the admission or exclusion of expert evidence, and his action is to be sustained unless manifestly erroneous."¹⁹¹ The New York Court of Appeals' interpretation is substantially the same:

The prevailing rule is that the question of the qualification of a witness to testify as an expert is for determination, in his reason-

183. *Id.* at 739.

184. 659 F.2d 730 (6th Cir. 1981), *cert. denied*, 455 U.S. 910 (1982).

185. *Id.* at 735.

186. *Id.*

187. 643 F.2d 458 (7th Cir. 1981), *cert. denied*, 455 U.S. 967 (1982).

188. *Id.* at 466.

189. *Id.*

190. *Id.*

191. *Salem v. United States Lines Co.*, 370 U.S. 31, 35 (1962).

able discretion, by the trial court, which discretion, when exercised, is not open to review unless in deciding the question the trial court has made a serious mistake or committed an error of law or has abused his discretion.¹⁹²

Section 702 of the Proposed Rules of Evidence of the State of New York concerning expert witnesses is identical with Federal Rule 702.¹⁹³ If New York follows the trend set in other states which have adopted rules identical to the federal rules, acceptance of novel scientific evidence will increase. The trend apparently is to expand the admissibility of evidence beyond the limits of the common-law rules.

V. Conclusion

When an experienced trial judge states that a great majority of trials turn on the question of credibility and that perjury is prevalent,¹⁹⁴ the appellate courts should no longer ignore the problems facing the trial courts in their search for truth. Dean Wicker said in 1953 that "[t]he legal profession can no longer assume a complacent attitude concerning our present methods of exposing mendacity."¹⁹⁵ He also stated that lawyers and judges "know that there is entirely too much intentional perjury [in our courtrooms today] and that it is usually difficult, and often impossible, for even an experienced trial lawyer to expose a [lying witness] on cross-examination."¹⁹⁶

Research into the use of voice stress analysis as a lie detector has so far failed to establish the validity of this technique. This failure, however, should not discourage further research or the production of better equipment to use in voice analysis as a means of detecting deception. Hearings held by the New York Legislature in 1978, prior to the passage of Article 20-B of the Labor Law banning the use of the PSE for employment tests, produced voluminous material from users of the PSE stating

192. *Meiselman v. Crown Heights Hosp.*, 285 N.Y. 389, 398-99, 34 N.E.2d 367, 372 (1941).

193. A CODE OF EVIDENCE FOR THE STATE OF NEW YORK § 702 (1982); 1983 N.Y. LAWS 2188-89.

194. *People v. Cutter*, 12 Crim. L. Rep. 2133 (Super. Ct. Cal. 1972).

195. Wicker, *The Polygraph Truth Test*, 22 TENN. L. REV. 711, 712 (1953).

196. *Id.*

that they found it to correlate with the results of polygraph tests. A report of a Special Hearing Officer of the Secretary of State of the State of Florida on the Psychological Stress Evaluator was submitted at the hearings.¹⁹⁷ The hearing officer reported a demonstration of the PSE equipment and a polygraph on a subject in which the two methods produced substantial similarities in the indications of stress.¹⁹⁸

Despite over sixty-five years of experience with the polygraph, millions of tests and numerous scientific studies, and despite the clearly expressed wishes of trial courts, appellate courts have denied the admissibility of the results of a polygraph test except in rare circumstances. For more than sixty years appellate courts have relied upon, as an immutable rule of law, the simple statement of fact in the *Frye* case that the test has not yet been generally accepted as reliable.

In view of the attitude of the appellate courts toward the admissibility of the results of a polygraph test as a means of detecting falsehood, it is obvious that the Psychological Stress Evaluator and the Voice Stress Analyzer will have the same difficulty in obtaining admissibility into evidence.

197. WILLIAM G. O'NEILL, PSYCHOLOGICAL STRESS EVALUATOR, HEARING OFFICER, FLORIDA DEP'T OF STATE, REPORT OF SPECIAL HEARING OFFICER (1974).

198. *Id.*